The Money Game

by

Norman Angell

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of

Educational Games and Simulations

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SOME OPINIONS

WHILE this volume is a book explanatory of money, it suggests as a supplementary means of explanation, a new type of card game, and two further games arising out of it. (The necessary apparatus is included within the covers of the book.)

This feature of the author's suggestion has created wide-spread interest in Europe. Shortly after the appearance of this book in England, a group of business men and educationalists set up a Bureau for "testing the value and exploring the possibilities" of the new device. The first "Council" of this "Bureau of Visual Economics" included:

SIR CHARLES TREVELYAN, *President of the Board of Education.*
EVELYN WRENCH, *Editor of "The Spectator."*
A. G. GARDINER, *Late Editor of "The Daily News."*
J. A. HOBSON, M.A., *Author of "The Science of Wealth," "Gold, Prices and Wages," "The Economics of Distribution," "The Economics of Unemployment," etc.*
C. M. LLOYD, *Director of Social Science Studies, London School of Economics.*
MAY JACOBY, *Principal of Battle Abbey School.*
THE HON. LADY BARLOW.
C. K. MUNRO, *Playwright, Author of "At Mrs. Beam's," etc.*
HAROLD WRIGHT, M.A., *Author of "Population," etc.*
CAPTAIN E. N. BENNETT, M.A., M.P.
GEORGE PEVERETT, *Editor of "One and All."*
JOHN HILTON, *Director of Statistics, Ministry of Labour; Member of the International Statistical Institute.*
BEATRICE FORBES ROBERTSON, *Author of "What Women Want," etc.*

The following are extracts from the English Press Reviews of the book, and from letters written by various persons in England and in this country who have had an opportunity of playing the game

. . .

THE SPECTATOR (*The Editor*)

¶It has two great merits. Firstly it is a good game and one enjoys it for itself; and secondly it really does enlighten its players, young and old, as to fundamental economic principles. Taken in conjunction with the story that it illustrates, it most definitely does help one to understand the economic structure of society.

. . .

THE FINANCIAL TIMES (*London*)

¶A novel form of teaching economics has been evolved. . . . The explanation is very much simpler than that usually given by writers on economics, and is much more likely to be understood by the layman. . . . The rules of the game themselves make most interesting reading. And while the game is so simple that a child can easily learn it, there are variations and developments which will cause it not only to appeal to the adult mind, but will also provide a splendid introduction to the study of economics.

. . .

THE FINANCIAL NEWS (*London*)

¶An amusing and fascinating recreation, and extremely enlightening as to the ways and means of fundamental economic principles.

. . .

THE MANCHESTER GUARDIAN (*H. W. Nevinson*)

¶A marvel of imaginative ingenuity. . . . Apart from the game and its delights the author gives us some equally lucid pages on popular fallacies. . . . Mr. Angell's book throws a kind of radiance.

. . .

THE MANCHESTER GUARDIAN (*Evelyn Sharp*)

¶It was a stroke of genius on the part of Mr. Norman Angell to recognise this truth—so simple when recognised, like all important inspirations—and to invent an ingenious round game through which the stupidest person in the world would be able to grasp the main principles underlying what seems incomprehensible when presented as a theory.

. . .

THE MANCHESTER GUARDIAN (*The London Diarist*)

¶It is quite as amusing as Bridge and I am inclined to say, though this may be only the impression of a novice, much more skilful.

. . .

THE DAILY NEWS (*London*)

¶Mr. Norman Angell has not only given us a new and delightful indoor sport, but made a Robinson Crusoe story out of the dreariest of all modern sciences—Economics. It should be a rival to Contract Bridge, and is, in its later stages, often exciting. . . . It is only after the game is over that we begin to realise that the problems of Currency, Banking and Credit have in some curious way been simplified.

. . .

THE DAILY HERALD (*London*)

¶Could you learn to play the game of chess without ever seeing a chess board? Of course not. Nobody, in fact, would be so foolish as to try. The very idea is grotesque. Not less grotesque in the view of Mr. Norman Angell, is the idea of trying to teach people the working of the banking and currency system by using text-books in the ordinary way. So he invented a game of cards, which he calls "a new instrument of economic education". . . . One night last week I played it from eight o'clock until half-past nine, and I was very sorry when it was time to go. . . .

. . .

THE ABERDEEN JOURNAL

¶A fascinating volume this, which should make it possible for the layman to understand the mysteries of money, credit, and banking as easily as he learns chess or bridge. Once having read through the fascinating simplicities of the book—but 164 pages in all—the reader may then confidently turn to the block of cards at the end, and play out with a few friends a game that is as engrossing as chess or bridge and not more difficult.

. . .

THE IRISH INDEPENDENT

¶This game is certain to become popular. The book, however, is not merely devoted to the explanation of the game, it is besides, a sound and thoughtful contribution to the science of finance.

. . .

THE SHEFFIELD INDEPENDENT

¶A perfectly fascinating pastime and at the same time one can learn something of the intricacies of finance. The game is no more complex than bridge, and after all does mean something.

. . .

THE NEW STATESMAN

¶Mr. Angell has many interesting and suggestive things to say about money, the controversies to which it has given rise and the common fallacies about it. Incidentally he gives some amusing illustrations of the prevalence of these fallacies in quarters that ought to know better. . . . The game is entertaining and affords plenty of scope for the exercise of skill and of the gambler's instinct.

. . .

THE SUNDAY REFEREE

¶It was a revelation to me when I discovered that the dry and dusty problems which had exercised my youthful mind to breaking point are now explained in a game which is quite as enjoyable as Bridge and fraught with more "points" in every way. "The Money Game" is Mr. Norman Angell's best gift to the world, and if it becomes as popular as, say, Bridge—which purely on its merits as a game it deserves—political parties will soon find themselves confronted by an electorate with a vital knowledge of the science of economics, which, alas! seldom raises its head without making a fool of itself in the purlieus of Westminster.

. . .

THE SUNDAY SUN (*London*)

¶Nothing quite like it has been sent out from the presses before. . . . It is certainly the most courageous experiment I have seen for many a day in the publishing line.

. . .

THE EDUCATIONAL OUTLOOK (*London*)

¶Mr. Norman Angell has performed the astonishing feat of turning a stiff problem in economics into an alluring game. Hardly anybody understands the nature and function of money as a factor in world relations. After a few preliminary games the present writer began to understand, and he is encouraged therefore to commend the game to others of greater aptitude.

. . .

SCHOOLMASTER (*London*)

¶Nowadays, when the value of relating school to environment is recognised, such valuable lessons, obtainable without encroachment on the curriculum, will undoubtedly find favour.

. . .

ONE AND ALL (*London*) (*Organ of Adult Education*)

¶After playing it my comment was that in a few years time every adult class in economics will probably start with a demonstration of "The Money Game." . . . It is a book, and more than a book.

. . .

LETTERS FROM PLAYERS

American and English

THE EDITOR OF "THE NEW YORK WORLD"

¶I have played the game on two different evenings at my house with parties of friends who had very varied interests. I found the game very entertaining; easy to learn, but fascinating, because it is one in which you really match your wits against a whole tableful of people. It seems to me one that a child could play quite simply, and that adults might play with no end of refinements. That the game is educative seems to me certain. It clarifies better than I have ever seen it done the fundamental principles of money and credit. I have no doubt that anyone who has played this game a few times would read a text-book on banking with a totally fresh understanding.

WALTER LIPPMANN.

. . .

THE EDITOR OF "THE NEW YORKER"

¶I enjoyed the economics game very much indeed. Even for one who proved as dull a business man as myself the play was quite fascinating. I think the game has two very definite uses: First, your intended one of teaching the rudiments of economics to students; and, second, the more frivolous one of being a first-class indoor sport. I should very much like to play it again some time, and I hope you will let me know when the cards are put on the market.

MORRIS MARKEY.

. . .

Business and Professional Men

SIR GEORGE PAISH

¶Your proposal seems an excellent one. Certainly something needs to be done to ground both youngsters and adults in economic principles, and it may be that your plan will give a great many people that taste for economics which they at present lack, to their very great injury.

GEORGE PAISH.

. . .

SIR THOMAS LEGGE

¶I have no doubt whatever that you have hit on a brilliant idea, and that playing this game at school will be most valuable to boys and girls in making them think of the importance of so many-sided a subject as money, which is generally ignored.

I think this is what my boy of fourteen felt, who watched it too.

THOMAS LEGGE.

. . .

A LAWYER

¶Having played your game, which teaches the theory of money so clearly, I want to say that I believe it has great possibilities for both instruction and amusement, and that once launched it should become extremely popular in the United States. It should appeal to both children and adults, and there is a great deal more in it than can be learned at a single sitting.

HENRY R. CAREY (*Member of the Pennsylvania Bar*).

• • •

AN ACCOUNTANT

¶No one could play these games—and they are most attractive games to play—without getting some idea of the nature of money, credit, and banking. The games can, I believe, bring to millions who would never dream of opening a book on economics—and would not understand it if they did—some elementary knowledge of economic facts.

ALBERT FEAKINS (*Treasurer, Wm. B. Feakins, Inc.*).

• • •

A B.Sc., COMMERCE

¶I confess I did not believe until after I had played the games how really well they illustrate the basic principles of economics. These games can be of immense value, not merely in schools, but, I believe, in the Freshman stage of the Economics course in the University. I am quite sure that if some of our students had begun their studies in economics by playing even this first game, their subsequent work would have been very much helped.

GEORGE V. DENNY, B.Sc., *Commerce (former Instructor English Dept., University of North Carolina)*.

• • •

Professors of Economics

PENNSYLVANIA UNIVERSITY

¶Not only is the game calculated to secure the interest of those who play it, but it seems to me to present very admirably a number of very important principles of economics.

I feel quite sure that this game is an excellent medium through which a better appreciation of these principles can be secured—a better medium than much of the formal teaching that we do, especially with younger students.

ERNEST PATTERSON (*Professor in the Wharton School of Finance and Commerce, University of Pennsylvania*).

• • •

¶The playing of your game was one of the high points of the Conference. The social sciences are seriously handicapped because their principles do not lend themselves easily to demonstration as do those of the natural sciences. This game does for economics what a series of variable laboratory experiments

does for physics or chemistry, and does it in a fascinating manner. I should like to try the game with my elementary economics students.

MAYNARD C. KRUEGER (*Instructor in Economics, University of Pennsylvania*).

. . .

COLUMBIA UNIVERSITY

¶May I tell you how interesting I found the game illustrating the use of money and the principles of banking? As a demonstration of certain fundamental facts about the relation between the use of money and the provision of real income, the game seems to me highly successful.

WESLEY C. MITCHELL (*Professor of Economics, University of Columbia*).

. . .

Professors of Education, etc.

OXFORD

¶I found your game most interesting. The way in which it illustrates certain economic truths could not be bettered. I was led to compare this method with a scene I once witnessed of a class of boys being taught economics from a text-book. Very few had understood the chapter they had had to prepare, and the teacher's explanation only seemed to make confusion worse confounded. The boys had first to penetrate the technical jargon of the book, and, secondly, to reconcile somebody else's explanation with their own confused ideas. This game does away both with technicalities and the barrier of a teacher's mind between the learners and the truth to be learnt. Economic principles are learnt without effort, and are rubbed in without the irksomeness which usually accompanies such a process. If this game were played in every school in the country, the economics text-books could be thrown on the dust-heap, and a good riddance too!

Not the least of the good things about it is that one's understanding of the principles it illustrates does not depend upon one's astuteness in playing the game itself. R. C. LANGDON DAVIES, M.A., *Oxon.*

. . .

COLUMBIA UNIVERSITY

¶I remember the general features of the game very well, and felt that it was splendidly calculated to give a gradual and concrete insight into the maze of money and finance, capitalism and credit. And this on sound pedagogical principles. . . . Your general philosophy of teaching these subjects through games is surely in full accord with pedagogy, from Froebel to the "project method." H. L. HOLLINGWORTH (*Professor of Education in the University of Columbia*).

. . .

TUFTS COLLEGE

¶It seems to me perfectly clear that those who play these games, whether adults or students of high school and college age, must inevitably get clearer ideas of some of the most fundamental and necessary elements of economics; and at the same time it would be a most unimaginative and petrified mind that would not get real pleasure and exhilaration out of the game as a game.

CARLTON A. WHEELER (*Dept. of Romance Languages, Tufts College*).

. . .

COLUMBIA UNIVERSITY

¶I am eager to see whether my Columbia colleagues will respond to your game with the same enthusiasm I felt for it.

WM. PEPPERELL MONTAGUE (*Professor of Philosophy in Columbia University*).

. . .

DR. DEWEY

¶I enjoyed playing the game. I do not doubt as to its success as a game. It is hard, after only one trial, to estimate its value educationally for the young. My a priori opinion is that its strictly educative worth would probably connect with the thoughtfulness of the young people concerned. The more thoughtful would get the principles involved; the others might simply play it for the fun of the thing without giving much thought to the principles illustrated. . . . But it is a fascinating game.

JOHN DEWEY, *Columbia University*.

. . .

School Heads

THE HEADMASTER OF BEDALES SCHOOL (*England*)

¶I saw quite enough to convince me of its educational value, if only from the questions to which it gave rise, both at the time and afterwards. There is no question, too, that it interested the players. I feel sure that they will wish to return to it, and the onlookers no less, some of whom are keen to study it more closely, for the sake of the enlightenment it promises to give on economic questions.

I certainly hope we shall be able to follow it up farther, and to go on in time to the other games.

J. H. BADLEY.

. . .

THE PRINCIPAL OF BATTLE ABBEY SCHOOL (*England*)

¶I have waited a month before writing you about your game in order that it should stand a real test—that of continued interest. It is an unqualified success. The girls who first played it have become enthusiasts, and now almost the whole school plays it. Our Maths. Mistress is overjoyed. For her

subject (as nearly everywhere in girls' schools) was one of least popularity and interest, and now, after some weeks of the Money Game, even her dullest pupils pursue her with inte ligent questions.

I regard the device as of the very greatest educational value. To make the subject of economics, particularly the money and finance side of it, even intelligible to young pupils is something I have always thought all but impossible. The importance of the subject has hitherto seemed to me only equalled by its difficulty and its dullness. But, by a stroke of genius, you have turned this extremely difficult subject into an entertainment, something which does not have to be "taught" in the usual sense at all, but which the children teach theselves; an entertainment, moreover, which inculcates an astonishing amount of economics. You have opened an entirely new avenue of approach to an increasingly important branch of knowledge and forged a new instrument of education.

M. JACOBY.

. . .

THE CO-PRINCIPAL OF FRENSHAM HEIGHTS SCHOOL (England)

¶The game is of absorbing interest to both senior and junior children. It teaches the principles of economics in a practical form, illustrates the difference between money and wealth, shows what a bank-note represents, and how a bank works. Much interest is aroused by the rise and fall of prices.

BEATRICE ENSOR.

. . .

THE PRINCIPAL OF THE CHAPIN SCHOOL

¶I think you must have realized how intensely interested we all were on Monday evening. Those who were present are most eager to perfect themselves in playing your game, and are confident that we can put it into use with our pupils. It seems to us a marvellous invention. This note is merely to ask if we may have five sets of the apparatus immediately.

M. B. CHAPIN.

. . .

THE PRINCIPAL OF THE MARY G. WHEELER SCHOOL

¶You will be interested to know that one class has formed a team to play the game and is preparing secretly to challenge the school.

MARY HELINA DAY.

. . .

THE PRINCIPAL OF THE LEE SCHOOL

¶The more I think of your game the more I am impressed with its educational possibilities.

FRANCES LEE.

. . .

School Teachers

THE MATHEMATICS MASTER AT BEDALES SCHOOL (England)

¶The whole scheme has interested me much, both as an introduction

to many fundamental truths of currency and credit and as an ingenious instrument of imparting knowledge which may obviously have applications in other places.

I have every intention of using the game with my senior class.

BASIL L. GIMSON.

. . .

THE MATHEMATICS MISTRESS AT BATTLE ABBEY SCHOOL (England)

¶As mathematics mistress here, I wish to thank you very much for your brilliant invention. The games are very useful, from my point of view, for two reasons: (*a*) I think a player of any one of the games is forced to reason the various money deals out for herself, so that the standard of mental arithmetic among the players must necessarily be raised. (*b*) I think the three games together give a very good idea of the nature of money, and they give the children also an idea of banking, etc., and help them to realize that loans and interest are not things created simply for the schoolroom and for the purpose of examinations!

P. SEYMOUR.

. . .

A TEACHER AT OAK LANE COUNTRY DAY SCHOOL, PHILADELPHIA

¶It is positively the most fascinating game I have ever played. That children should be introduced to it in schools in conjunction with a text-book in economics seems to me a splendid idea. . . . But grown-ups would derive, I am sure, not only great pleasure, but also great benefit from its many possibilities. I believe it can clarify many economic problems.

CAROL POWELL.

. . .

A TEACHER OF GREEK AND LATIN, MISS CHAPIN'S SCHOOL, NEW YORK

¶The game you played with us made the function of money clear as by a miracle. Though it is simple enough to be understood by children of thirteen or fourteen, I should think it would be useful to economics classes in colleges.

KATHARINE INNES COOK.

. . .

A TEACHER IN THE LEE SCHOOL, BOSTON

¶I so much enjoyed playing your game. . . . I feel that it is of distinct educational value. . . . Its use should not be limited to schools and children. Adults, I feel sure, would enjoy it as we did, and the economic principles which are made plain through it could well be learned by them. Children could thus learn the game at home as well as at school.

MARGARET FORSTER.

. . .

A TEACHER AT MILTON ACADEMY, MILTON, MASS.

¶I feel that the game has a very real educational value. . . . Apart from the educational merits, I found the game to be most interesting. I am eager to try it again. MARY M. JOHNSTON.

. . .

Children

PUPILS AT BATTLE ABBEY SCHOOL (England)

¶It is even more fascinating than Bridge, because it is impossible to feel as I occasionally do at Bridge, what an aimless occupation it is to sit powerless, sometimes discarding again and again, without being able to profit in the slightest. In your game I feel that if I fail in one way I still can, and must, benefit in another, never sitting through a round without an opportunity to gain. FAITH MELLEN.

. . .

¶The game has become a great success here, and, as I expect one of the others has told you, we have formed a committee of seven to arrange games and a tournament at the end of the term.

Everyone seems to have grasped it very well.

With many thanks for introducing me to such a fascinating game.

MARY FORDE.

. . .

¶I think your game has very good ideas behind it, and the practice in bargaining that it provides is good. Women, I think, ought to know about money affairs, because they always seem to be blamed for wasting their husband's money, which they probably do through just ignorance.

I am longing to learn the other games. BETTY FOX.

. . .

¶Without any polite exaggeration, I assure you that I found your game the most interesting I've ever played. I, for one, learnt a very great deal last night which I never had a notion of before. MERA BENENSON.

. . .

PUPILS AT FRENSHAM HEIGHTS SCHOOL (England)

¶So far I have only played your Money Game three or four times, but each time it seemed more fascinating than the last. HELEN WHITE.

. . .

¶It is the most interesting game I have ever played.

W. H. WHITE.

. . .

¶I would like to tell you how much I enjoyed playing your game. I have

played three times since your visit, and I am beginning to really understand it. I think it is an excellent way of getting to understand money.

K. M. Riley.

. . .

¶As to your Money Game, I think it is most interesting, and it clearly showed me the whys and hows of a bank. I had thought of going into a bank, but I didn't like to do anything rash without knowing what I was doing. Now I feel I shall be able to decide upon this point and know what I am doing.

A. D. Johnston.

. . .

¶I am writing to tell you how much I have enjoyed playing your game. We have played three times now, and each game has been more fun than the last.

Barbara Grantz.

. . .

¶We have played several times since you first taught us, and have enjoyed it more and more every time.

It is an extremely good game which all the school are now very keen to play.

Claire Deschamps.

. . .

A PUPIL AT HARTRIDGE SCHOOL, PLAINFIELD, N.J., U. S. A.

¶I love the game you taught us Thursday about the shipwrecked sailor. We can't teach the game to the other pupils until after the exams, but then we hope to form a club and play the game with all the other pupils. The whole class is wild about the idea. . . . The game taught me a lot about money. It shows you so much and in such an interesting way. Now I know that perhaps a mountain of gold would not make the United States richer.

Hoping you succeed with your games, and that others will like the game as well as I do.

Cammilla Hayward.

. . .

PUPILS AT THE MARY G. WHEELER SCHOOL, PROVIDENCE

¶We want to tell you how much we have enjoyed playing your game, and how much we appreciate the trouble you took in teaching it to us. We are certain we can learn economics in a much simpler and more entertaining manner by means of your book and game than by taking a boring course.

Gertrude Larson, Anna Shepard, Marcia Shepard,
Carlyn Payne, Novella Morrell, Sallie Holmes.

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THE MONEY GAME

By the Same Author

THE GREAT ILLUSION; THE PUBLIC MIND: ITS DISORDERS; ITS EXPLOITATION; THE FOUNDATIONS OF INTERNATIONAL POLITY; THE WORLD'S HIGHWAY; THE ECONOMIC CHAOS AND THE TREATIES; IF BRITAIN IS TO LIVE; MUST BRITAIN TRAVEL THE MOSCOW ROAD? A REPLY TO TROTSKY; ETC., ETC., ETC.

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THE MONEY GAME

Explaining Fundamental Finance

A NEW INSTRUMENT OF
ECONOMIC EDUCATION

BY

NORMAN ANGELL

1929
NEW YORK
E. P. DUTTON & CO., INC.

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PART I

MAINLY THE GAME

INTRODUCTORY NOTE

WHAT THIS BOOK IS AND HOW TO USE IT

THIS book explains, in a way not heretofore adopted by economists, what money is, how it begins and grows, how it functions, how banks may increase or decrease it, what happens when they do; the rôle of gold, the nature of credit, the concern of the business man, the speculator, the stockholder, bondholder, insurance policy holder, the consumer and the tax-payer in the rival financial policies upon which as voters, or otherwise, they are obliged at times to pass judgment.

While not attempting to carry the reader very far into the elaborate technique of finance, the book aims to give him such knowledge of fundamental processes as will enable him to avoid the grosser economic fallacies, to acquire an elementary grammar by which to test them.

It does this in part by the telling of a story of adventure, which story is itself the means of explaining the rules of a game—or a series—which still further elucidates the "money mystery." The games are a dramatization of situations in the story.

The story can be read as an explanation of the fundamentals of finance, without playing the game; the game can be—and is being increasingly—played purely as an amusement without thought of economic instruction, or instruction of any kind; it can

be learned from the book without reading more than a single chapter, and can be taught to others who do not have to read anything at all.

The game is an attempt to apply to the understanding of the somewhat intricate processes of the modern monetary system, the principle revealed in the fact that while it would be impossible to teach anyone, say, Chess, by abstract description or explanation without the apparatus, that game, completely unteachable by the abstract method, becomes relatively easy of understanding if we can use the board and pieces, have it visually demonstrated and take part in the processes. These games do for the understanding of money what the board and pieces do for Chess, and the cards for Bridge.

The book therefore, in addition to explaining money, and the games by which it can be made understandable, raises interesting questions of educational method in respect of the teaching of certain subjects.

Prospective players, who are concerned simply to learn the game, need not be disturbed by the size of the book. The matter indispensable to the mere playing is all embraced within one chapter of it.

Children have learned this game in an hour without a book at all; adults, working from the book only, may need a little more. No good game of any kind could be learned in less; and the learning of this game from the book is facilitated by the fact that its essential principles and rules are contained

in a short story of adventure, which constitutes a large part of the "Instructions."

Readers interested merely in the game and how to become proficient in it as quickly as possible should therefore confine their attention at first to Chapter II (Part I), and not attempt the variations until the main game has been mastered.

The game can easily be learned from this book *if the following rules are strictly observed:*

(1) *Before sitting down to play, read carefully the story of the Sailor's Adventures in Chapter II;*

(2) *Read next "The General Idea of the Game" (in the same chapter), so that you understand how it is merely a working out or illustration of the situation existing on the Island, and familiarize yourself with the apparatus supplied herewith;*

(3) *Glance at the rules and have them ready for reference when playing;*

(4) *Follow the general lines of the "Description of a Game" given also in Chapter II, when you start to play.*

The Sailor's story, which can be read or told, is, of course, only given for the first time of playing. Players who know the game are assumed to know the story. Those who, having learned the main game, feel disposed to extend their explorations into this new field of amusement will be able to do so (using the same cards) by reading Chapter III (Part I), which tells how to play two supplementary games.

The prospective player should be warned that neither the main game, nor the supplementary ones, will be played successfully unless at least one of the party has devoted an hour or two to reading the Story and the instructions with some care *before sitting down to play.* Although thousands (including children) are playing the main game as regularly and persistently as others play Bridge or Poker, a proportion of readers sometimes fail to play this game from the printed instructions. Their failure illustrates the principle which the game itself has been designed to utilize, namely, that the abstract description of any unfamiliar process, even if in essence simple, is apt to be confusing. An abstract description of a piece of machinery (say, the differential of a motor car) is sometimes extremely difficult to follow, although when one sees it at work, it is easy enough to understand. A book description of Bridge, to anyone completely unfamiliar with the game, would be brain-splitting; very many would give up attempting to play the game if so taught. The games here described are easier to learn by the book method than Bridge would be, and a special device, designed, among other purposes, to make even the abstract description of the game fairly easy to grasp, has been adopted. In linking the games to a story, in making them the dramatization of the situations therein, it becomes much easier to grasp the general idea of the games than it would be otherwise.

But, again, that simple story must be thoroughly

understood and digested at leisure by at least one of the party before sitting down to play.

Those who are interested in the game, or games, as something more than amusement, and desire to realize to the full how they explain, simply and easily, things which plain folk usually regard as profound and incomprehensible mysteries—the fundamental principles of economics, money, bankng, credit—will go on to read Part II, "The Economics."

And those who, in addition to being interested in the game as a game, and as an easy means of teaching themselves something of the principles of money and economics, are also interested in the device as a means of teaching others, as an instrument of education, should pay rather especial attention to the last chapter of that Part.

CHAPTER I

WHY OUR IGNORANCE—AND WHY A GAME

A brief chapter which impatient players need not, which intelligent ones will, and which the half-witted—who can play the game successfully and with enjoyment—must on no account read. It tells how an author, stirred by the dangers of his own and others' ignorance, sought for explanations and found a game, and discovered why we can learn the processes of bridge, but not those of credit or currency.

Consider for a moment what we deem it necessary that every child should know in order to live his daily life without too much danger to himself or others—for increasingly in our complicated modern world of sixty-mile-an-hour automobiles are our lives at the mercy of what the other fellow does in a crisis, upon his knowing certain things and using that knowledge.

In addition therefore to equipping the future citizen with such tools as reading and writing, we give him information which ranges from the rotundity and rotation of the earth to what the little George Washington did with his little hatchet; from the rules governing languages which died a thousand years ago, to certain odd facts in botany or zoölogy; from the number of King Solomon's wives to the structure of the atom.

But about the most indispensable, the most powerful and the most frequently used of all the devices of our daily lives, the money in our pockets and in our banks; the thing about which—or about matters intimately related to it—we are all of us in some measure called upon to make vital and far-reaching decisions, decisions of public policy which affect enormously the distribution of wealth and the lives of millions, about that, we are, speaking broadly, taught nothing whatsoever.

Now that is, when you come to think of it, an astonishing fact. The thing which, of all things in human society, concerns us most insistently every day, almost every hour of our lives, and about which man has made some of his worst mistakes and developed his worst misunderstandings—something which has grown into an elaborate system and around which our whole civilization rotates—is something which our popular education completely neglects; neglects to such a degree that unless the pupil goes to the University or one of a few favored High Schools, he will not hear one word about it from the day he enters school to the day he leaves.

There has, it is true, been some attempt of late, in elementary and High Schools in America, to fill this astonishing gap. In some elementary schools there are Scholars' Banks, Thrift Clubs, and such-like devices; and the Social Science courses in High Schools include sometimes under Civics, some description of the external facts of Banking and money; in a proportion of High Schools Economics is a definite department.

All this assuredly is useful as far as it goes, but it goes in fact a very little way indeed towards remedying the defect just outlined. The School Bank will give a child a good idea of what a check is; how it is drawn and cashed; some idea of how Bank accounts are kept; some notion of simpler Banking Legislation. The Thrift Clubs form good habits in the orderly organization of personal expenditure. The High School courses in Economics doubtless give some preparation for business life.

But while these courses or devices have an individual or vocational value, they fail—usually they do not even attempt—to reveal the social implications of the monetary and banking systems in the sense of showing the citizen's concern in rival monetary policies. The courses in Civics only as a rule include Banking as one of a multitude of "facts" in community life—given in conjunction with the clauses of the American Constitution, the details of Municipal Administration, methods of sewage disposal, the pay of the police, the mileage of the railroads, the new manufacturing and farming methods, how concrete roads are built. . . . In this mass of detail the underlying process, a clear conception of which is indispensable to understanding, gets lost. And even these courses reach at present a very tiny proportion of those who are to become voters and to decide policy.

The fact is indubitable that the average citizen simply does not understand and could not explain how his interests are related to monetary or economic policy. Neither the School Bank nor the

Thrift Club can give such demonstration of the nature of money or the mechanism of credit as would enable a citizen to see in what way his interests bear upon, say, the maintenance of stable money; nor what is indispensable to such money, nor how, as a worker and tax-payer, his burdens would be increased by deflationary policies; nor in what way as the holder of an insurance policy representing the savings of a lifetime, he might be robbed by inflationary policies; nor how Protectionist policies calling for a "favorable balance of trade" and a bigger gold reserve might bear upon such inflationary tendencies; nor the relation thereto of the payment of foreign debts; nor why the foreigner should not be made to pay in money while his goods are kept out; nor how those things bear upon the interests of, say, the farmer; nor how enlarged or restricted credit to the farmer bears upon the interests of those who are not farmers; nor which of the relief schemes are of the perpetual motion order and which might be sound; nor whether it is possible to abandon the gold standard as has so often been demanded by the politician and may be again; how he would be affected thereby as debtor or tax-payer on the one hand and bond or insurance holder on the other; nor whether he ought to regard the Wall St. fellows as robbers and enemies of the people as so many say they are; nor whether the plots of the international financiers are really the cause of war, nor . . .

We live in a civilization which has developed, as a vital and completely indispensable part of its

mechanism, a highly artificial economic system. The daily life of our cities could not go on for an hour without these elaborate processes; no man could live for a single day without employing, or have others employ for him, this omnipresent device of money. The most serious strains and stresses in our society are those which arise out of economic issues. We have seen, in our own day, a great civilization, which seemed the most stable and the best organized in the world—that of Central Europe—shaken to its very foundations, and the accumulated wealth of its great middle orders engulfed by utter financial chaos.[1] We have seen the post-war economic reconstruction of Europe held up for half a decade by the crassest ignorance of the most elementary economic truths. We see Europe to-day unable to achieve the degree of economic unity which is indispensable to the welfare of its dense populations because its peoples everywhere are dominated by fallacies which have been exposed by economists a thousand times. We suffer perpetual difficulties of unemployment, commercial depressions, industrial maladjustments, now in coal-fields, now in cotton factories; we face, as a result, move-

[1] "Money is not a safe device. It can fail to keep faith. It has failed and recovered in Russia and Germany. Nowhere is it proof against fresh failures. If men lose confidence in it sufficiently, our civilization, which is now entirely based upon it and which has no reserved alternative to it to fall back upon, will clog and cease to work. It is at least as indispensable now as housing and clothing. Modern civilization is like an aeroplane in mid-air, an aeroplane with one sole, imperfect engine which is popping and showing many signs of distress. It may win to an aerodrome and repairs and replacements, or it may make a very unpleasant forced landing presently with little hope of immediate recovery" (from *The World of William Clissold*, H. G. Wells, p. 229).

ments for "nationalization," for economic experimentation of all kinds; proposals for the revolutionary overthrow of the whole system.

What preparation does our organized scholastic education of the masses afford as intellectual equipment for meeting these manifold problems? This is the one department of knowledge omitted from the education of all but a microscopic minority.

The contrast between the magnitude of the issues involved in this matter and the character of the knowledge brought to bear on their decision is comic.[1]

The usual defense of this neglect—that the

[1] "We should not tolerate a person who professed to explain the inefficiency of some locomotive and to provide a remedy for it if we knew that he had never studied mechanics and was quite ignorant of the construction and working of locomotives. The existing economic organization is a much more complicated and delicate piece of machinery than a locomotive, and yet, whenever some imperfection in the work done becomes particularly prominent, we are overwhelmed with suggestions about causes and remedies by persons who have not the smallest general knowledge of the reasons why the machinery works at all. It often happens that a man of considerable eminence in his own profession, but without the fundamentals of economics, will make a suggestion which is precisely on a level with the proposition that the locomotive would be much more efficient if its weight were taken off the driving wheels so that they could revolve more easily. The editor of an important magazine accepts with joy the contribution in which he develops his idea, and the public feebly thinks there may be something in it, and is confirmed in this view by the fact that professional economists are as disinclined to publish a refutation of it as the Astronomer Royal is to answer the theorists who declare that the world is flat.

"It is not refutation of ridiculous suggestions which is required, but their non-appearance in consequence of there being no possibility of their gaining acceptance in minds already occupied by a knowledge of the actual nature and working of the economic machine. When, therefore, I tire the reader with insistence on something which appears to him too obvious to need mention, I hope he will ask himself whether he does not know of some important propaganda, or of some opposition to some important reform, which is based on a doctrine incompatible with the acceptance of that which seems to him to be obvious" (Edwin Cannan, *Wealth* (P. S. King), pp. v, vi).

average man and his wife learn the kind of economics they most need, the one by earning an income and the other by spending it—is but a further example of the fallacies that encumber the subject.

For the security and value of the money which we earn and save; the answer to such questions as whether our children will be permitted to inherit the property we may have accumulated in our lifetime; the stability of the industry or business by which we live, are coming more and more to depend upon public policy, upon the economic theories which may happen to dominate the mind of the million. The individual effort may well be brought to naught by the ignorance of the mass.

The "Practical Man" who cannot see this fact, this interest in the promotion of some measure of popular understanding of economic principle, has failed to grasp the condition of his own economic security and the nature of the society in which he lives. In the world as we know it, the individual can only be safe if society as a whole is capable of some degree of wisdom—and that again depends upon some degree of knowledge. That knowledge our education is not providing.

No writer who has had to deal with public questions involving the simple economic truths (and which public questions do not?) can be unaware of the ignorance in this respect of the average newspaper reader, voter, business man. To assume, in writing of international affairs, for instance, that readers will be familiar with such things as the way in which payment in international trade is made, or

in which Reparations and public debts must be made, if at all, is, I found many years ago, to make an entirely false assumption. Educated men, including educated business men, frequently hold the crudest "flat earth and perpetual motion" sort of ideas about money and economics generally, and are often, as is usually the case with the ignorant, extremely proud of their ignorance. It shows in their eyes that they are "practical men," or, in the case of the literary gents, have a soul above pelf. "All I need to know about money is how to make some," says the Business Man with a knowing air. The idea that schools should include any notion of the dismal science in their curricula is just a fad. "Economic theories" we are told have no importance outside the study of the theorist.

Well, one would have supposed that "how to make some" is quite obviously not all one wants to know. One wants to know also how to keep it when made, how to make it safe. And it never can be safe so long as other people with votes are as ignorant in this matter as the events of the past few years have shown them to be.

Looking back at what has happened to the property and money of the well-to-do all over Europe this last ten years or so (the years of inflationist orgies), is it true to say that the man who owns money can be indifferent to the economic ideas of the masses, of those, that is, who vote economic and financial legislation, and to whom the politicians bend the knee? The millionaire owner of kronen or marks has seen his millions simply melt away, or

reduced to the value of a bus fare home; the owner of francs or lira has seen four-fifths of his property in bonds or insurance or mortgages disappear; the *rentier*, who lived in opulence and what he believed to be the complete safety of "hard cash" or the best gilt-edge Government securities in the world, has been reduced to penury, his property worth but a fraction of its former value, his bonds often little better than wastepaper. Even the Englishman has seen the pound cut in half and his financial primacy pass to others.

Now this confiscation has not been the work of "Socialist agitators" or "Revolutionists." It has been the work mainly of bourgeois, capitalist, Conservative, "law and order" Governments, driven by the prevailing notion on the part of voters of what in a given circumstance is good financial policy; unable to apply the right method (in Reparations, taxation, what not) at the right time because it would be unpopular and lose votes to the party.

Has the experience of the propertied classes—the experience of losing most of their property through the economic ignorance of the public—taught those classes that the safety of the money which they make may well be dependent upon a better public understanding of certain fundamental economic truths; that our education might concern itself a little with the processes by which the business that feeds and clothes us is carried on; with the inwardness of our monetary and fiscal policies, taxation methods, and financial organization?

Again, what is the educational preparation of the

ordinary citizen for passing upon these problems of Currency Bills, Fiduciary issues, Managed Currencies, Federal Reserve policies, Free Silver (or Free Trade), Nationalization, taxation methods, inheritance, super-tax, Capital levies, the financing of Municipal and National public utilities, Giant Power, Public ownership, Trust legislation, payment of foreign debts, and the thousand and one other similar questions upon which he or she votes so airily? The security of the business and property of each one of us may well at times depend upon some measure of wisdom on the part of that voter. His or her degree of education on this subject is of vital concern to us. Yet, as already noted, school education on this subject is practically nil.

Why, again, has this subject, so vital, so omnipresent and all-pervading in our lives, been altogether omitted from our general education?

"Difficult subject. . . . Controversial. . . . No agreed body of principles. . . . Curriculum already overcrowded."

It is true that much of economics *is* an inexact science. But the principles concerning which the worst popular confusions arise (they are hinted at above), fallacies which so long as they hold the mind render any real understanding impossible, are principles no more open to question than the law of gravitation. They represent the indispensable working hypotheses of any clear thought at all.

Is it possible easily to bring home an understanding of these basic principles? "There are two things that seem to possess an especial quality for addling

the human brain," said an eminent educator once. "Love is one; the other is currency."

Money *is* a difficult subject; explanations about it *do* soon become involved, brain-splitting. But it is not quite so difficult to explain as would be, say, the game of Bridge or Chess, if we explained those games as we try to explain economics—whenever we do attempt it. Try the experiment of teaching Bridge in the manner in which we teach economics, that is, by abstract exposition, oral or written, by lessons, text-books, *without resort to visual demonstration of the processes.* The first lesson would run something like this:

> The game of Bridge is played by the distribution of fifty-two specially designed discs, divided into four classes or denominations; these separate denominations, consisting of discs of an ascending scale of values, the whole distributed by the players in rotation, each distributor having the right of determining . . .

At this point of the lesson, or text-book, any ordinary child—or adult—has either ceased to grasp what it is all about, become completely confused, or got it all wrong. An exceptional student here and there might finally, as the result of weeks or months of such lessons, understand sufficiently the processes to be able to play. But it is quite safe to say that you could pursue that method for weeks or months, and find that at the end the majority of the students would be utterly incapable of playing Bridge or understanding a discussion of its problems.

Yet this thing, so baffling as a subject of abstract exposition, more baffling, perhaps, than currency itself, can, if another method is employed, become so easy of understanding that a child can learn the thing in an hour. That method is to sit down and play it, so that the student has a visual demonstration of the processes as they unfold, participates in them, becomes, indeed, part of them.

The same pedagogical truth is illustrated in another way. Try to explain abstractly any intricate piece of mechanism to someone not a mechanical specialist or expert. You will fail. Take the student into the machine-shop and let him see the mechanism actually moving, and what was before confused becomes plain.

Assuming that money is a more intricate subject than Bridge, we get this result: We adopt, as the means of teaching the more difficult subject, a method which we know would fail when applied even to the more simple.

Indeed it may be that we do worse. As though the inevitable difficulties of presenting this science without any visual demonstration—without the aid of what the board does for Chess and the laboratory experiment for Physics or Chemistry—were not great enough, we seem sometimes to rejoice in making it still more difficult.

In an attempt to explain why economic science has failed to reach the public Professor Schiller, of Oxford, says[1]:

[1] *Tantalus, or the Future of Man,* Dutton, New York.

> The present economic chaos in the world has been indirectly brought about by the policy adopted by the professors of economics forty or fifty years ago, to suit their own convenience. For they then decided that they must escape from the unwelcome attention of the public by becoming more "scientific," i.e., they ceased to express themselves in plain language and took to mathematical formulæ and curves instead, with the result that the world promptly relapsed into its primitive depths of economic ignorance. . . . Every economic heresy and delusion, which had been exposed and uprooted by Adam Smith, at once revived and flourished. In one generation economics disappeared completely from the public ken, and the political world and the makers of the peace treaties of 1919 were so incapable of understanding an economic argument that not even the lucid intelligence of Mr. Keynes could dissuade them from exacting the preposterous conditions which rendered impossible the realization of their aims.

I am not sure, however, that Professor Schiller is quite just to the economists. It is not the technician's job to be clear to the layman, to achieve popular enlightenment. It is the specialist's job to find out the truth.[1] But if it is not the economist's job, having found the truth, to find also just that expression of it which will bring its essence home to

[1] Though there may be something in the case put by the late William James in these terms: "The interest of the subject is to become more widely understood, and so more influential. The interest of the professor is to become more unassailable, and so more authoritative. He achieves this by becoming more technical. For the more technical he gets, the fewer can comprehend him, the fewer are competent to criticize him, the more of an oracle he becomes."

the ordinary ignoramus (that is an entirely separate and distinct art and science), it is somebody's job.[2] The device under discussion is an attempt to contribute to the solution.

We shall the more readily understand what that contribution might be, as well as the all but insuperable difficulty of clarity and simplification which confronts the economist when confined to his present tools, text-books, oral exposition, if we realize how poor an instrument language may be at times, and how easily a full statement of even simple things may become difficult and involved, as witness the attempt to describe so simple a thing as a game of Bridge. Take what the best book method compels us to resort to, even when we are dealing with what is almost a truism, like the theory of Marginal Utility, or certain aspects of the Quantity Theory of Money.

An elementary text-book deals with the Quantity Theory thus:

[2] There is sometimes, even in the minds of intelligent and educated people, a childish confusion between the qualities demanded by research in a given subject and the teaching of its elements. The editor of a teachers' journal said to me on one occasion: "During the crisis in the exchanges I tried to get an article explaining what it was about, so that teachers could in their turn explain it to their pupils. I went to the very best men in the country—the most noted economists of our times—paid them big fees, and, do you know, not one of them produced an article which I could understand, or which any teacher that I submitted the articles to could understand." I asked him whether he would regard Einstein as a good teacher of arithmetic to children. The probability is, of course, that the more profound an economist is, especially one who deals in problems of currency and exchanges, the worse will he prove as an explainer to the child, or to the layman ignorant of the elements. The man who has spent his life in the intricacies and the higher reaches of the subject has forgotten what the elementary difficulties are. The two functions are entirely distinct. And when the editor talked of going to the "best" men he certainly failed to ask "Best for what?"

Let M represent the total amount of the generally acceptable medium of exchange, including metallic money, Government paper-money, and bank-notes. Let V represent its rate of turnover, or velocity of circulation. Then MV will represent total actual money payments, measured in money units. Similarly, let the symbol M' represent the transferable "rights to receive money" that are used in making payments. The rate of turnover of bank deposits may be represented by V'. Let T represent the total volume of trade, or, more accurately expressed, the total number of units of commodities and services exchanged for money during the year. Finally, let P represent the average price per unit paid for these commodities and services. The equation of exchange may now be stated as follows:

$$MV + M'V' = PT$$

Another author tells us that the above needs amplification.

Professor Fisher expresses the goods side of the equation of exchange as PT, allowing P to stand for the level of prices and T for the volume of goods sold. The equation then reads:

$$MV = PT$$

Many have raised the objection that the expression of Σpq as PQ is inexact and fanciful. It would be grossly so if P were taken as an average of prices and Q as a sum of quantities; but the "units" of Q are not tons, yards, bushels, and so forth, but "dollars' worth as of a base year." With the new refinement of index-number methods, PT becomes charged with an amazingly precise meaning, the

fringe of possible doubt being less than a tenth of one per cent.

$$MV\ \Sigma pq\ P(Q\Sigma p_0q_0)\ PT$$

That is to say, P is the index number of prices, while T is the product of the index number of quantities (Q) times the value sum (Σp_0q_0) in the base year used for reference.[1]

And by way of really simplifying the thing Professor Rufener states Professor Irving Fisher's equation of exchanges in these terms:

> In plain English the equation reads: The quantity of money times its velocity of circulation plus the quantity of bank deposits subject to check times their velocity of circulation equals the average price times the total number of units of commodities sold, counting each unit once for every time it is bought and sold. There is no doubt about the truth of this statement. It is as true as that 2 times 2 is 4. It is as true as that the total sum spent by buyers is equal to the total sum received by the sellers from whom they buy.[2]

These are quite mild examples, and current textbooks on economics are full of them. And they are inevitable, even when used to express little more than a truism (as in the above case) where the teacher is dependent entirely upon abstract exposi-

[1] Quoted in *Money*, by Foster and Catchings, p. 383.

[2] No wonder an able teacher of economics writes:—

"A student may commit to memory the principles laid down in the text, recite them in class, and write them down in examinations, and still be not very much wiser. To reach a full understanding of the principles of economics it would seem to be necessary that the student should evolve, with the guidance and aid of the instructor, his own conclusions and principles" (Professor Moulton's *Money*, p. viii. Chicago).

tion and is unable to call upon such aids as visual demonstration.

In an analogy already drawn I have asked the teacher to imagine himself confronted by a group of students—intelligent Eskimos or Zulus—who had never seen a set of Chessmen or a pack of cards and confronted with the task of teaching them Chess or Bridge. I suppose, further, that custom and the pedagogical proprieties forbade you to use Chessmen, chess-board, or cards; to limit yourself strictly to text-book or to oral exposition. You have first, in the case of the card game, to describe the cards which your students have never seen—"a sort of specially printed disc divided into four classes or denominations; each unit of these separate denominations representing a step in a hierarchy or scale of values." You proceed to describe so simple a thing as "shuffling"—"mixed at hazard." Then "dealing"; "trumps"; "tricks." You then come to the operations of the game, and to simplify the thing you resort to symbols instead of unknown names like "clubs" or "ace" or "spades," which carry no image to your students' minds (just as any text-book on economics is now full of algebraical symbols). In order to bring home what this would really mean to a group of students, I have taken a passage from an ordinary manual on Bridge and replaced the familiar names—clubs, trumps, suits, etc.—with symbols, as is done so often in economic text-books. (And remember that the average reader, particularly the average school student who is unfamiliar with actual financial operations,

would be much in the position of a student who has never seen a pack of cards and is given a manual on Bridge.) You get this result as a means of teaching Bridge:

> When the player who by rotation has become the distributor of the discs, or the player acting in co-operation with him, has exercised the option of refusing to any denomination the arbitrary value n, and the player co-operating with the one who has the right to place the first disc upon the table has raised to $2r$ the value r assigned to the results of the round, then the player having the right of commencement should exercise it by placing on the table the disc bearing the greatest individual value in the denomination of which he holds the smallest number of discs, always provided that the discs of this denomination in his possession do not include one of the value 12 or 11. Should his discs of the denominations a and x, or b and y respectively, be equal in number and individual value, he should select a or b in preference to x or y, since it may fairly be argued that the player who has refused to any denomination the arbitrary value n is less likely to hold discs of considerable number or high individual value in the denominations a and b than in the denominations x and y; since had he held numerous discs (including a proportion of those of high individual value) in the denominations a and b he would probably have assigned to that denomination the arbitrary value n.
>
> Yet on occasion this commencement with the disc of highest individual value from a denomination in which few discs are held will be found to be im-

practicable. Such a case would be one in which the player having the right of commencement holds discs of the four denominations as follows:

b 1, 2, 3, 4: *y* 1, 2, 3, 4: *a* 11, 2, 1: *x* 12, 1.

In this case it would clearly be disadvantageous to commence by placing on the table any disc of the denominations *a* or *x*—in short, it is out of the question to make the paucity of discs a reason for selection. The player is therefore driven to the denominations *b* and *x*, and there is a slight theoretical advantage in selecting *b*, since success in the denominations *a* and *b* will give a higher coefficient to the value *r* than success in the denominations *x* and *y*.

A practical Bridge player could, before its translation into symbols, understand this passage because he had become familiar, *before going to the manual*, with the operations which it describes. But it is only because he had so learned the operations, by seeing them and taking part in them, that he can follow these instructions.

But how long would it take you to teach Bridge, *beginning* by such means, by a manual, to students who had never taken part in the operations, never seen them, to whom the meaning of such words as "ace" and "trumps" would be just as difficult to remember as an alphabetical symbol? How many of your students could play Bridge after "learning" such a passage? Here and there a very brilliant, very painstaking student might get a glimmering of what the thing means. It would be an extremely exceptional case.

Speaking broadly, it would be a psychological impossibility to teach Bridge or Chess by such means; and if public policy among the Eskimos or the Zulus depended for its wisdom upon a real understanding, by the average tribesman, of the operations which those brain-splitting passages describe, then that public policy would probably be marked by extreme folly. In other words, the average Zulu or Eskimo would know Bridge as the average European—cutting his Continent up with poverty-producing barriers and prohibitions—knows economics.

Would you, therefore, conclude that the playing of Bridge or Chess is beyond the capacity of the ordinary student? You would not. You would know that an ordinarily intelligent human, although he may never previously have seen a pack of cards, can be taught those games in a few hours, or a few lessons of an hour or two, provided only that they are not taught in the way in which we try to teach such things as economics. In that case the games become incomprehensible—unteachable. If, discarding the text-book and the abstract exposition, the teacher sits down, cards in hand, and enables his students actually to see the operations he has been attempting to describe, to take part in them, the thing which was unteachable becomes understandable even to a child.

The conclusion is plain enough: there are certain things which can be learned easily in one way, not at all, for most of us, in another. In the rare instances where we have attempted to teach eco-

nomics in schools (at pre-University age, that is) we choose the way which we know would fail utterly if applied to even the easier case of teaching, say, Chess. When we know that something which is inconceivably difficult when done with one kind of tool is extremely easy when done with another, why do we not resort to the tool that renders it relatively so easy?

Nearly twenty years ago, speaking to a group of educationists on the failure of the millions turned out by our schools to understand certain simple economic principles, the present writer said:

> If ever the million are to understand the underlying processes of money, credit, banking, economics, they must learn those things as they learn Bridge or Chess. You have neither the time nor the teachers to do it as it is done in the universities. We must do for money problems what we have done for Bridge problems—enable the student actually to see the processes and mechanisms, to take part in them, to be part of them. Then they can be made understandable in a time which comes within the limits of that available. Not otherwise can the thing be done.

I expressed the hope that some means of visually demonstrating those processes, enabling us to learn elementary economics as we learn Bridge, would be devised. But none seemed to be forthcoming.

Intermittently during twenty years I have returned to this problem, devising illustrations, diagrams, games, plays. Literally scores of such devices have been tried and rejected. But twenty

years of trial and error have resulted in the invention of a series of games—of the nature of card games played with special cards—which do enable the players to see the processes of money and economics "at work," to take part in them, to be part of them. While the games do not, of course, cover the whole of economics, they do two things: (1) so elucidate fundamental principles as to secure immunity from nearly all the commoner and more mischievous current fallacies; and (2) by clarifying the elementary principles make all economic problems thereafter easier to grasp. While they will not of themselves endow a player with a large body of positive knowledge they will help him to recognize ignorance when it is in danger of entrapping him; help him to resist having ignorance foisted upon him. They do not explain the whole problem of the gold standard, but they make the discussion immeasurably easier to follow, protect against the traps and fallacies which nearly always mark such discussions, and clarify factors which, if not clearly understood, make it impossible to follow any such discussion intelligently at all.

Now these games may not be the precise form of the better tool. They may be, and probably are, an extremely clumsy and imperfect form. But I do suggest that the illustration, which I have drawn above, indicates clearly that there is open to us in the teaching of some subjects a method which, both in itself and in its results, differs, not merely in degree but in kind, from methods heretofore employed. They may be the means of simplifying,

clarifying, and accelerating the comprehension of processes bound up inextricably with our daily lives, of increasing import in our civilization.

The foregoing should make it clear—

(1) Why considerable claims are made for the method of visual demonstration through the process of a game which students can see going on before their eyes and in which they can take part.

(2) Why that game concentrates upon the demonstration of the real nature of money, since it is around confused thinking about money that the commonest and most mischievous fallacies gather.

(3) Why much less importance is attributed to the teaching of actual details of banking and currency systems than to ensuring an understanding of the underlying principles and mechanisms common to all monetary systems.

Past the Experimental Stage; the Extent of the Trials

These games have been played in England, France, America some hundreds of times; with ordinary business men, journalists, bankers, professors of education, professors of economics, teachers in schools, children in schools of all types. At the beginning of this book will be found extracts from some of the letters received from those who have played the games. As will be seen, these players include educators, writers, journalists, economists, as well as children.

Their Attraction Purely as Games

Practically none of the letters received from players fails to testify to the attractiveness of these games as games. The inventor has been urged again and again to promote the games commercially, simply as games, without reference to their educational bearing. He has been told, *ad nauseam*, that if he emphasizes the educational value the public will shy away from the whole idea and never take them up as games. That is possible. He is taking the risk. His first desire is to exploit their educational value. The public may one day learn that a thing does not lose all its amusement value the moment that it contains an idea.

The suggestion that the game can impart ideas or teach anything will, I am told, cause the vast majority immediately to turn against it. One American friend, whose judgment I very greatly respect, having played the game a few times, said in effect:

> It is an incredibly fascinating game. I know nothing quite like it. It grows on one and gets better the more one plays it. And it clears up things about money which, for me at least, have been a lifelong mystery, in a positively miraculous fashion. You will do a real service to the popular understanding of those things by publishing it. But do, I beg you, keep its educational origin or intention in the background. Better still, do not reveal it at all. Even its astonishing merits as a game will not be able to save it if once the notion gets abroad that it can convey ideas or add to the understanding of important things. The public are firmly convinced that

only the trivial and the objectless can be entertaining. Convince them that your game is of that order and they will play it. If you reveal to them that it will add to their stock of ideas, they will decline to look at it.

Is not this fear, that immediately a thing has an educational value it must by that fact alone be dull, an eloquent commentary on what education usually is?

If the reader is one of those whom my friend above quoted has in view, ineradicably convinced that by no accident, nor art, can a game which happens to have been used as an illustration of certain processes indispensable to our daily life be also a good game, I beg him to believe, not in m racles or the capacity of this present writer to perform them, but in the possibility of a happy accident. It is no compliment to the inventor to say that this is a good game, in view of the fact that he was trying to create mainly something else. He only hit this particular bull's-eye because he happened to be aiming at another. The game is just as good—so I am told by better judges of games than I am—as though it had never been related in any way to the teaching of anything, just as amusing as though it dealt with things completely trivial and meaningless. It is quite easy to ignore what it happens to teach. You need not consciously learn anything at all, and such new ideas as, notwithstanding these assurances, may creep into the player's mind, will do so unobserved. It is not an intelligence test, nor a test of knowledge. You do not have to know anything at all, except the rules of the game, in order to play it nor will the playing of it expose ignorance, how-

ever bottomless. It can be played by completely brainless persons.

Is the reader reassured?

Is it Worth Trying?

Let us summarize a few points.

The present state of confusion and ignorance on the part of the millions touching a central fact of our civilization, upon which those millions are being asked repeatedly to pass judgment, is a public danger, as recent events prove. Elementary education has to admit in this connection gross and complete failure: it does not even attempt to impart knowledge, to fortify the mind that it is training against even the silliest of the fallacies that surround this subject, or to prepare the future citizen in the least degree for wisdom in the decisions which as a voter and part of the public that citizen will be compelled to make. The usual justification for the omission is that the traditional method of teaching this subject is beyond the grasp of the student of school age and development. Here is an entirely new approach and new method which *is* within his grasp and the success of which, in certain non-scholastic fields, is beyond question; which is along the lines of modern pedagogical thought; pleasing to parents; which can be applied without disturbance of existing curricula, without any prolonged training of teachers, inexpensively.

Is it worth at least a trial?

The question is prompted by a certain initial indifference to the suggestion sometimes displayed

by teachers and educators. (The indifference usually disappears when a trial is once made.) It is natural —and right—that a new method should have to face scepticism. But scepticism should be synonymous with the open mind. To be convinced that a new method cannot have value is not to be sceptical; it is to be credulous about the sufficiency or superiority of the old. Educators are apt to say, "The game method has been overdone. Education, after all, must be taken seriously. The children themselves in the long run prefer that."

The inventor of this device is completely of that view, and the reference to this method as "games" may have misled the reader. The games are not of the nursery order at all, with such elements of childishness as might repel the adolescent or adult. They are games in the sense that Chess and Bridge and Poker are games, and their fascination, to which a host of witnesses, adults and children alike, now testify, is due just to the fact that they make a direct appeal to the intelligence. "It is fascinating," writes Mr. Walter Lippmann, the distinguished author and editor of the *New York World*, "because it is a game in which you really match your wits against a whole tableful of people." Youngsters realize this challenge to their intelligence and have no feeling that this is a method of "talking down" to them.

The means employed are interesting and absorbing, but serious; entertaining and amusing, but not trivial.

Incidentally the games are readily played out-

side of class hours. The principal one can be learned by children of twelve at a single sitting, and the book which enables teachers to explain the game and apply its economic lessons can be mastered in two or three days.

For Clubs, Y.M.C.A.s, Adult Schools, etc.

Much of what has been written above with reference to schools applies equally to clubs, study circles, tutorial classes, Y.M.C.A.s, Adult Schools, etc. This is essentially a *social* form of instruction. Out of the discussion about the points of a game, often while the game is going on, comes imperceptibly economic enlightenment, which hard drudgery with text-books probably could not give.

The Family Circle

The adaptability of these games to the family circle, appealing to the business man because of his interest in money problems, to the youngster because they clarify what heretofore has been confused (and because they are just extremely good fun), forming a link between home and school, is too obvious to need laboring.

Trained Demonstrators

While experience shows that it is perfectly feasible for anyone of ordinary intelligence and care to learn these games from the written instructions only, and to drive home the lessons they enforce, it is also true, of course, that certain initial difficulties or mistakes, likely to occur in introducing any new

device, can be avoided if actual demonstrations can be given by someone already familiar with the games and the method. In Great Britain, a Bureau under the auspices of a group of educators and business men has been formed for the purpose, among other things, of keeping a list of demonstrators available for schools, clubs, institutions, or private homes. Doubtless such an organization will in due course be formed in America.

CHAPTER II

HOW TO LEARN THE GAME

The Adventure Story which, while telling you how the sailor started his enterprises on the island and explaining also something of the mystery of money, helps you to understand the game—The General Idea of the Game—The Rules—The Playing of a Game Described in Detail.

THE STORY

This game is related to a story of adventure, and is indeed the dramatization of certain situations therein.

The linking of story and game has, apart from other advantages, to be dealt with later, the advantage of making the rules of the game easier to follow and remember.

That part of the story which is indispensable to the game can be read in a quarter of an hour or a little more. That indispensable part is printed in larger type; the passages in smaller type are not essential to the playing of the game (though they *are* necessary to its real understanding) and can be omitted by those readers who desire simply to play without reference to the game's economic lessons. Where the story is read to a group the passages in large type can be given, and then the question asked, "Is that clear?" If to any present it is *not*

clear, then the succeeding passage in smaller type may be read by way of elucidation. Children will be interested in the whole story.

The synopsis summarizes all the earlier part of the story contained in Section 1, so that impatient players, having read the Synopsis, may start with Section 2.

SYNOPSIS

A ship's engineer, the only survivor from a wreck, manages, after six weeks of suffering on an uninhabited islet, to put to sea in a raft with two blocks of gold (melted down from a Pirate's hoard), one of which he values by guesswork at about $500 and the other at about $5,000. He is cast up finally upon an island, something like Tristan da Cunha—very remote, at which ships only call once in several years, yet having a population of several hundred souls who can read and write, but who have never used money. He wants both to keep his gold, as he hopes one day to return to Europe, and yet to utilize it for the purpose of providing himself a means of support on the island where he may have to remain for many years. The story tells how (having lost the larger block in a gully), he accomplishes this, and why he invented certain games to help him to do it.

If it is desired to economize time and shorten the story the reader may now skip to Section 2.

§ 1

The Sole Survivor

It was only the existence of a pool, amounting to a small pond of rain-water, that had enabled Brown to live for six weeks on this islet at all; and it was because he had to search every nook and cranny of the rocks in order to find enough shell-fish to keep himself alive that he had stumbled upon the nest of doubloons. Working along the beach at low tide he had turned over a pile of sizeable rocks in order to get at any crabs there might be underneath, and there in a large hollow, big enough to have hidden a small cabin-trunk or a sack of potatoes, lay a mass of something which he took at first to be small shell-fish (the top covering of weeds had evidently been pulled up with the stone). He took one up, found it surprisingly heavy, and threw it down upon the rock, realized it was metal, scraped it on the sharp edge of the stone, and there, plainly revealed, was a large gold coin. He had come upon a cache of treasure.

How much he did not know: he guessed that originally these coins had been contained in a sack, long since rotted away; that they had been placed there as a temporary hiding-place by someone who had never been able to retrieve them.

Here was a small fortune. But . . . the reflection occurred to him, was it? In a day or two, or week or two, he would die for lack of a few pennyworth of food. This gold, more than he could carry, would not procure him a single mouthful, nor prolong his life a single moment. And he thought of Midas and other stories. But those stories had never brought home to him quite as this find did the fact that money is not wealth; for money he had in quantity he had never had before, but of wealth,

in its most rudimentary form—food to keep life in his body—he had none at all. A dozen ship's biscuits would have been a greater treasure.

Still, he took as many of the coins as his pockets would hold—he had nothing else to carry them in—took also cross bearings of the spot, as a sailor will, and stumbled along the beach looking for more shell-fish. And as he rounded a little headland he came upon something else—some wreckage of a ship which some great gale, evidently, had lodged in a group of rocks well above normal high-water line.

An idea occurred to him. When he had been washed ashore that night from the ship, which had gone down a mile or two from where he stood, he had found the next day among the things in his pockets a cigarette-lighter. It still worked. Here was firewood. With the light brushwood from higher up the little hill he could make a bonfire—a flare by night and a smoke signal by day. It might mean rescue. As a ship's officer he knew his charts, of course, and guessed that this islet was the outlying elbow of a ridge of larger islands, two or three hundred miles or so to the south. His hope lay in the fact that those islanders would, while out fishing, see his signal, for he also knew that that group of islands was perhaps the most remote of all the inhabited islands of the world.

That evening, and for several evenings, he burned wreckage. But no boat came, and he knew that his strength was slowly ebbing.

One night he idly took the gold coins that he had been carrying in his pockets, and which now were heavy, and threw them in the fire. Of what use were they to him? That night he sat late, piling on more wood and more wood to makes the flames visible.

The next morning he raked the embers over to make the smoke column for the daytime signal, and found that the coins he had thrown in, catching in a cup-like corner of the heated rocks, had all fused together, making one solid lump.

That day he had to pull at the pile of wreckage a great deal in order to get firewood, and in doing so dislodged a huge mass from the higher rocks. It fell into the little bay below and lay floating in the shallow water. "And that," said the Sailor immediately, as he watched it, "makes a raft. I know what I have got to do. The prevailing winds here would carry me to that island group to the South in two or three days. I might stay as many years on this outcrop of purgatory. This week I make a ship."

He acted immediately on his decision. Water was the first problem. How carry it? Luck came to his help. In the mass of dislodged wreckage was a small barrel still capable of holding several days' supply.

He still kept the fire going as he worked at making the raft navigable. And, as he raked at his fire, he came again upon the solid lump of coins. "Why not melt them all? I could carry them then lashed to the raft pretty safely—indeed, there is no other way of carrying them." So on the last night or two—it helped to pass the long hours—he melted down the lot into two blocks, a small one and a big one, which he judged was about ten times as large as the smaller. "Five thousand dollars, if a penny," he reflected.

A few days later the wind shifted to just the quarter he had thought best. The making of the sail for the raft had bereft him of nearly every shred of clothes. At dawn he worked the raft out of the little bay, and

commending himself to the God of Sailors' Luck, drove before the freshening half-gale.

§ 2

The Island

He knew of this Island. In the beginning the population had been mutineers and pirates, but in the course of a century they had become the most religious community in the world.[1] They had, he

[1] The true story of some of these "lost islands" and their population, passing sometimes for generations unvisited, is indeed as strange as any fiction. Here are some notes about two of them:

Pitcairn Island.—In 1780 a mutiny took place on the *Bounty*, a ship employed by the British Government. In 1790 Fletcher Christian, leader of the mutiny, and eight Englishmen, six Polynesian men, and twelve Polynesian women took possession of Pitcairn Island and burned the *Bounty*. The island has an elevation of 2,000 feet and an area of two square miles. It is a hundred miles from the nearest island of the Paumotu Archipelago.

The original colonists lived, as the old chronicles state, "in treachery and debauchery" until, in 1800, they were all dead except Alexander Smith, afterwards known as John Adams, who became very religious, took the helm, and brought up the younger generation. The colony was visited by accident in 1808, 1817 (an interval, it will be noted, of nine years), and 1825. John Adams died in 1829, and the islanders, fearing drought, moved to Tahiti in 1830. But there they disapproved of the climate and morals, and returned to Pitcairn in 1831. In 1850 all the islanders (sixty married persons and a hundred and thirty-four young men, women, and children) were removed to Norfolk Island, but in 1850 two families returned and were followed by a few others.

In religion they are Seventh Day Adventists. They speak an extraordinary patois derived from the Tahitian women who came with the first islanders. The population is now about a hundred and seventy, and there is a governing body chosen from among the islanders, the constitution of which has been several times altered owing to internal jealousies. The islanders own a vessel, in which they carry on a certain amount of trade with Mangaava. The island is a British possession.

Tristan da Cunha.—Three small volcanic islands belonging to Great Britain. Discovered in 1506. The first permanent inhabitant was Thomas Currie, who landed in 1810, and was joined by two others. They grew vegetables and raised pigs. In the war of 1812 the United States used the islands as a base, so the British Government annexed them in 1818. A small

knew, a missionary who lived among them, a school, a church; and sometimes a decade passed without a visit from the outside world at all. And he also knew that the islanders did not use money.

Well, he was safe; and this was to be his home for a time at least. It was not a cheering prospect. He could see the village and the church in the distance. The houses were made of sod, with no windows. The church was only distinguishable from the other buildings by a rough wooden cross; cultivation was bad; the only two boats, which he could see drawn up on the beach, were unseaworthy. Yet the Island furnished timber; there was water-power and, he suspected, an outcropping of low-grade coal. What was more, evidently in years past some ship loaded with machinery had gone ashore and broken up. For he had stumbled, as he worked his way along the beach, over the strangest odds and ends of machines. He had noticed the greater

garrison was maintained for a year or two in order that the island should not be made a base for the rescue of Napoleon from St. Helena. When the garrison was withdrawn, William Glass, a corporal in the Royal Artillery, was left behind at his own request, with his wife, two children, and two masons, thus founding the present settlement. Occasionally other settlers came, or shipwrecked sailors stayed. In 1827 five colored women from St. Helena were induced to come as wives for the five bachelors. Later, more came from Cape Colony. Other settlers, Dutch, Italian, and Asiatic, were added, but the British strain predominates. Glass ruled in patriarchal fashion till his death in 1853. The island was occasionally visited by American whalers, and in 1856 twenty-five out of what was then a population of about a hundred emigrated to America. During the American Civil War trade fell off because few whalers came. In 1885 a plague of rats made the growing of wheat impossible, but the islanders refused to leave. They are a moral religious people who have no written laws. They have no intoxicating liquors and are said to commit no crimes. They raise sheep and cattle, and grow potatoes, apples, and peaches. Sometimes several years pass without a ship calling, but there is a resident clergyman and a school.

part of a donkey-engine scattered at the foot of the cliff as he came along. One of the cottages had a large sheep-pen made with copper telegraph-wire.

What could he do in this strange community? He had his gold and what he stood up in, which was a loin-cloth. He needed first: clothes, food, and rest. He could doubtless get those, and live for a time by his gold. (For although these Islanders had no money he guessed that the school and its books had taught them what it was.) But when his money was spent, what then? And had he indeed money? He had solid blocks of gold, with no means of turning them back into coins. He would want things of several Islanders. To hand the gold over to one would place himself in the mercy of that one, and probably be the beginning of all sorts of dangerous situations—plots, quarrels, fights. It would be by no means easy to turn those two solid blocks into a means of livelihood, even for a time. Which reminded him that the gold (which he had dragged from the raft on landing) had best be hidden to await events. In the rocks near where he rested, and above the deep torrent that ran to the sea, he had noticed a cleft or cranny that might serve his purpose. He took the larger block under his arm and clambered up above the gully. Just as he reached this cranny his foothold gave under him. To save himself he grabbed at the ledge above him, but the gold he carried under his arm slipped, and he saw it bound from rock to rock until it splashed into the torrent below.

"That water is ten feet deep, if an inch," reflected the Sailor. "The gold's hidden all right."

He returned to where he had left the smaller block. What should he do with that? And as he reflected, his eye, the eye of an engineer, caught once more those grotesque bits of machinery that the wreck had thus incongruously dumped upon this God-forsaken corner of the earth.

He had an idea.

§ 3

The Plan

It was to the Parson that he decided finally to unfold it. What he said was in sum very simple, and to this effect: "I am a sailor and an engineer, cast up upon your beach. I have with me some gold worth about $500, and nothing else. Your people have taken from the wreck of a ship loaded with machinery, and are using for all sorts of inappropriate purposes, odds and ends which I could turn into things useful for the community: a saw-mill, so that the people could have decent houses and you a decent church; a flour-mill; a loom; a tractor, perhaps, for better cultivation.

"I will exchange my gold for those odds and ends.

"But it is in a solid block and I cannot turn it back into coins.

"I offer, therefore, to deposit it with you, on the understanding that the first time a ship calls it shall be sent to some mint and turned into coins. When those coins come back they can be used to

pay for the machinery I shall have bought from the Islanders.

"But that may take three, or four, or five years. In order that we may get to work at once, I will anticipate the arrival of the coins by giving notes to the Islanders which they can exchange later for the coins which shall be delivered by the mint to you.

"What about it?"

To which the Parson, in effect, retorted:

"The Islanders themselves shall answer. We have here a governing committee. You shall put your scheme before them."

§ 4

The Objections

The Sailor found these Islanders—so remote from the world—sceptical and suspicious, but not stupid. They grasped the general idea, but showed at first little disposition to part with their odds and ends of property for the Sailor's orders on the Parson—"bits of paper," as they called them, and "Bank-notes," as the Sailor already began to call them. They raised many objections. Said one:

"We don't know the exact value of this block of gold. You yourself are only guessing its value. It may be full of alloy. And when the coins come back, and we present our bits of paper to the Parson, we may find that there are more orders than coins. Some of us will be left with worthless paper. We shall have surrendered our property for nothing."

To which the Sailor replied:

"If that should happen, if for some of you there should prove to be no coins when the ship comes back, I will give you instead goods, made by the machinery I hope to put together, lumber from the saw-mill, or cloth from the loom, of a quantity equal in value to the gold for which your notes would call."[1]

"How do you know it would be equal in value?"

"That may be determined in several ways, but here is one: Those who, after the arrival of the ship, exchange their notes for coins, will have coins but no notes. They will want flour, or the wives will insist that they get for the children's clothes some of the good cloth which I hope to turn out. You will like the coins; I hope they will be very pretty, but you won't be able to eat them, and they won't keep you warm in cold weather. A good many will decide that wholesome food and warm

[1] A somewhat over-simplified way of putting it, as will be seen later. These notes call ultimately (in the case of the Sailor's Bank a little too "ultimately" perhaps.) for gold, not goods. The meaning is rendered precise enough by what follows.

Professor Irving Fisher in *The Purchasing Power of Money* pp. 40-46 says: "When the unitiated first learn that the number of dollars which note holders and depositors have the right to draw out of a bank exceeds the number of dollars in the bank, they are apt to jump to the conclusion that there is nothing behind the notes or deposit liabilities. Yet behind all these obligations there is always, in the case of a solvent bank full value; if not actual dollars, at any rate, dollars' worth of property. These assets are largely the notes of merchants although, so far as the theory of banking is concerned, they might be any property whatever. If they consisted in the ownership of real estate or other wealth in "fee simple" so that the tangible wealth which property always represents were clearly evident, all mystery would disappear. But the effect would not be different. Instead of taking grain, machines, or steel ingots on deposit, in exchange for the sums lent, banks prefer to take interest-bearing notes of corporations and individuals who own, directly or indirectly, grain, machines or steel ingots.

clothing or good homes are better than these ornaments.

"Now the things which I propose to make will be sold by auction at the storehouse here in the main settlement. I put up, say, a bale of cloth to the highest bidder. John is ready to surrender one of his coins to get it; Henry immediately offers two, and Richard three. If no one goes higher the price of that bale that day will be three coins; Richard gets the goods and I get the three coins.

"Now note what happens. Suppose I had given three more notes than there were coins, and George here held those three unredeemed notes and was getting anxious. I can now redeem those notes because I've got some of the coins back from Richard in exchange for goods. Suppose I had issued six more notes than there were coins for, George holding them. I would say to George: 'I will give you coins for three of those notes to-day. Come back tomorrow and I'll probably have coins for the other three, for I'm going to sell some flour.' George comes the next day with his three notes. Meantime his wife has made up her mind that she wants flour and says to George: 'When you get those three coins, exchange them for as much flour as you can get for them.' George arrives at the store and says: 'Can you give me the coins for those other three notes?' 'Certainly,' I reply. 'Philip who bought some cloth this morning has gone to his farm to fetch them and will be back in a couple of hours.' George says: 'As I'm going to give you those coins for some flour as soon as you've exchanged them for these notes, I won't wait. Just take the notes and give me the flour and collect the coins when Philip comes back.' This is done. The notes, although there are more of them than there are coins,

are circulating as freely as coins because those who hold them have confidence that they can be exchanged for coins, if not to-day, then tomorrow, or next week, or next month. And you will have learned by the auctions how many coins—or notes—you have to give for, say, a sack of flour or a thousand feet of lumber, and it will not be long before you will be using them to make exchanges with.

"As I came along here this morning I encountered a fisherman who had been trying to trade a boatload of fish for a nanny goat, which he needed because there has just been an addition to his family. The first farmer the fisherman visited wanted the fish but had no nanny goat; he offered a horse but the fisherman did not want horses. The next farmer had a goat but did not want fish at any price. The next farmer said: 'I would take a few fish but I could not eat a boatload in a month, and before that it would be bad. But my goat would be as good as ever.' 'Yes,' retorted the fisherman, 'but look at the cost of feeding the goat. The fish won't eat their heads off, anyhow.' And so the argument went on and they never did come to a bargain. These notes of mine will provide a better way of trading than that. When you receive them you will know that they can be exchanged for anything that the Islanders anywhere have to sell. But if you are keeping these notes for that purpose and using them for exchanges, you won't be able to present them at the bank, for payment either in goods or gold, especially as many live in distant islands, a week's journey away.[1]

[1] "Banks may with confidence count on being asked to pay out in cash only a fraction of the total amount of deposits. . . .

"The ratio between the reserve and the deposits, or demand liabilities, is called the 'reserve ratio.' For example, if a bank has cash on hand amounting to $100,000, and deposits of $1,000,000, its reserve ratio is 10 per cent., because $100,000 is 10 per cent. of $1,000,000.

"In other words,

If my enterprises succeed I snall be able to exchange such notes as you offer me for coins even though the number of notes I issue before the arrival of the ship is greater than the number of coins."[1]

"Bankers realize that the cash reserve ratio need not be very high for safety. The stream of cash coming in from various sources feeds the stream of cash going out. The cash reserve is maintained to meet temporary emergencies when the demands for cash going out become unusually great or the stream coming in temporarily fails.

"How great the reserve ratio should be for safety depends upon the nature of the bank's business and on general business conditions in the country. In some business communities at some times 5 per cent. might be sufficient. In others 25 per cent. or even more would represent a prudent minimum." Rufener's *Principles of Economics*, p. 530.

[1] Perhaps the Sailor's currency comes nearest to what is known as "convertible fiduciary paper," which is exchangeable for specie but is not covered by a coin reserve of 100 per cent. Unlike "representative" paper, it involves an element of trust or credit, and affords a means of expanding the quantity of money beyond what is possible with the use of specie alone. Numerous devices have been developed by means of which redeemability may be insured without a full specie reserve, and there has been a long-continued discussion as to the most effective means for the purpose, resulting in the development of a fairly definite body of principles.

Thus, as already noted, in the United States the Federal Reserve Banks are authorized to issue notes, against which they are required to keep 40 per cent. only in gold or gold certificates, the remainder being covered by Commercial bills of exchange. (This security itself, be it noted, being debts, the debts of merchants.)

Under the Currency and Bank-Notes Act of 1928, the Bank of England is authorized to issue £260,000,000 (two hundred and sixty million pounds) of bank-notes on a cover of securities alone.

Mr. Hartley Withers (*Money*, p. 77) says: "What the banks call 'cash at the Bank of England' consists of credits in its books which make them its depositors; and the amount of 'cash' in the shape of a deposit in its books which the Bank of England can create for customers varies often and sometimes enormously, and the proportion between its stock of gold and its deposits is subject to no legal regulation—a fact which is sometimes forgotten by those who criticize our monetary system as inelastic. The Bank of England, like the other banks, makes deposits for its customers by lending, discounting and investing; and its power to do so is limited only by its own view as to what is judicious. It has always exercised a large discretion in the matter

This, to some of the Islanders present seemed a miracle. They felt that this sailor fellow was putting something over on them, and several turned with interrogative looks to the Parson for guidance.

The Parson, who had settled years before on the Island as a Missionary and who had a good library and read the latest books from the "outside" had been listening to the explanation carefully, but had so far said nothing. He felt, as the protector of his flock, that he should now intervene.

"Why not strictly limit the number of notes you issue to an agreed sum, the nearest we could guess as the value of the block of gold?"

The Sailor very strongly objected. Such a limitation, he said, would probably spell complete failure to establish the new enterprises. He explained:

"Suppose I buy such pieces of machinery from the Islanders as I deem necessary for my purpose, giving for them a number of notes equivalent to the agreed value of the block of gold, I then find that the machines are incomplete; that three or four more pieces would enable me to complete a mill or loom, making possible the production of goods to 'cover' the extra notes in the way just explained. It would be to everyone's interest that I should issue those extra notes and that I should have a certain latitude. Otherwise I am pretty sure to find myself with a number of incomplete machines, of value to no one, although the issue of a few more notes, by getting me the missing pieces,

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and the notion that the gold standard is a purely mechanical system is a delusion."

would make valuable property of them, and by so doing and at the same time give value to the notes."

"And suppose these new pieces did not complete the machines either. What would you do? Issue new notes and buy more pieces? And if they did not suffice issue more? It would not be long before there were very many more notes than coins and no goods.

"The whole process you have described pre-supposes the success of these enterprises, assumes that you can in fact, from these pieces make these machines."

The Islanders saw the point immediately.

One Islander said: "You propose to give us bits of paper to be exchanged later for gold, for things we are using. I've made a good cattle-pen out of these rods you want. If I pull them up I shall have to make new pens. And even if I get those rods back at the end of a year or two, you having failed to do anything with them and having issued so many orders that I cannot get gold for mine, I shall have exchanged my property for worthless or nearly worthless, bits of paper. In other words, Mr. Sailor, what is the limit to the number of notes you can issue?

"*Suppose you don't succeed?*"

Yet the Parson realized that it would be to the interest of the Islanders themselves to give the sailor some latitude. He saw how useful these enterprises, if successful, might be, and did not want to have them come to naught owing to the refusal of the Islanders to take even the smallest risk.

After some discussion with the Sailor the Parson made these suggestions:

(1) If, *before the Sailor had got an enterprise actually to work turning out goods* any claim made upon

him amounted to more than the agreed value of the block of gold, he could be declared bankrupt. This would impose a clear limit to the number of extra notes he could issue, for the purpose of completing machines.

(2) The security or "cover" for such notes as might be issued should not be just the goods produced by the flour-mill or saw-mill or loom, but those properties themselves, a first charge on the whole enterprise. [1]

The Sailor saw the reason for these suggestions and agreed.

But the Islanders were puzzled. One said:

"You say that these notes will, in addition to being a claim upon the gold, be also a claim upon the value of the enterprise. But that would not be the same thing

[1] Of the many devices which exist to make Bank-notes secure perhaps those adopted by the Sailor come nearest to what is known as "The Secured Issue System." This sytem gives the note holder a special claim on all or some of the property owned by the issuing bank. "Of such systems the simplest is that which gives the note holder a first lien on the general assets of the bank. That is, should the bank fail, the note holder must be paid in full before other creditors get anything. The fitness of this device to contribute to the security of the notes is plain." (*Some Chapters on Money*, by Fred M. Taylor, 1906.)

One of the reasons doubtless for the Parson's suggestion that the properties themselves and not merely their product should be put behind the currency, was a fear that this ingenious Sailor might become a terrific monopolist. The Parson had some form of mortgage bond in mind which would give the Islanders some hold over the Sailor's activities. Apart from that, however, the Parson may have realized that if the "flour-notes" described by the Sailor stood for only one sack of flour and that were delivered and eaten, and the note nevertheless went again into circulation it would *not* have goods behind it. It would be like a check which although cashed by the bank went on circulating. If the notes were to pass freely in and out of the bank they would have to stand for a perpetually flowing stream of flour or other goods.

It is undesirable, however, to burden the Sailor's otherwise simple case with these complications at this stage. Anyone explaining verbally the game to a group of novices about to play should limit the points discussed to those embraced in the larger type above.

at all. We all know about gold and coins, from what the Parson reads to us on Sunday afternoons. I could use coins to go to Europe with for instance, but I could not take my share of the mill to Europe."

The Sailor replied, "It is true that you could not take your share of the mill to Europe, but you could exchange your share—or these notes which constitute a share—with someone who had coins and did not happen to be going to Europe.

"Or, it could be done in another way. When the ship comes with the coined money I hope we shall be able to send back on it, some of our lumber and grain. When sold, some foreigner will owe the bank money—gold. You can give me bank-notes and I will give you a letter to the purchaser of the grain and lumber saying, 'Don't send the money to us, give it to Mr. George Smith who carries this letter and to whom we owe gold.' In that way, you will be able to take your share of the mill to Europe."

Still some of the Islanders were puzzled. One said: "But how can these notes—bank-notes—make a man part-owner of a flour-mill? Can a man with one go up and say: 'Give me a bit of the mill'?" The Islanders could not understand.

The Sailor replied: "You used to have a flour-mill here kept by old John Pavey, until the stones wore out and could not be replaced. He used to take part of your grain as payment for grinding the rest, and during the course of the year made in this way about a hundred sacks over and above his own needs. Those hundred sacks represented his income from the mill, the mill's profit. This flour he traded for fish, mutton, boots, and such other things as he needed. Suppose he found he could get on with fifty sacks a year, and, being a very

religious man, as he was, he had decided to make the Parson here a present of half the mill's product every year, and had given a document to that effect. The Parson would thus, in fact, become half-owner of the mill. The Parson would not want fifty sacks for his own consumption. He might write fifty notes saying, 'Deliver to bearer one sack of flour,' and give these notes in exchange for boots or fish or meat. They could pass from hand to hand, because each one of them could at any moment be exchanged for a sack of flour.

"Such orders would have become a means of exchange, money, that is, based on flour instead of gold. It is in that sort of way that the notes I am issuing would be backed, not only by the gold, but by the product of the saw-mill, loom, etc., as well. You will not be able, it is true, to bring a note to my stores and say, 'Give me a bit of the flour-mill,' but you will be able to say, 'Give me a sack, or twenty sacks of flour, or yards of cloth,' as the case may be, 'in exchange for these notes of yours.' In that way they will constitute a claim on the property —its product, that is. And they will be good money, freely passing from hand to hand as long as the flour or lumber or cloth for which they stand is in truth being produced. But if the mill fails to work, so that when the holder of a note which called for a sack of flour found no flour, and people feared for that reason to accept these notes, then they would become bad money of doubtful value. Their goodness or badness would depend upon whether or no there really were goods behind them.[1]

[1] Professor Irving Fisher tells of a town where, not so many years ago, certain street-car tickets were commonly used as small change. The acceptor of these tickets might have no need to travel by car, but he knew that thousands did, and that they would be willing to take them in payment for small purchases or in change. They were good money so long as the cars ran, but would have been worthless if the street-car company went out of business.

"The notes might be backed by the property in another way. Suppose the Parson had a very large payment to make: wanted to buy a farm or build a schoolhouse. He might say: 'Here's the Miller's document that makes me half-owner of the mill, that is to say, owner of half its product, not for one year, but for always. I will trade it for a farm.' But if he wanted to build a school-house, he might want to divide his half share in the mill into several parts. Suppose he divided it into ten parts. Each document would represent a twentieth share in the mill. Those documents would have a value quite as definite as a claim to a bit of gold, and could pass from hand to hand in the same way as a claim to a bit of gold. Again, in so far as these notes of mine represent a claim on property, they will be that kind of document.

"Put it in another way.

"Suppose you had a house that paid a rent of $100 a year and you wanted to make a contribution to the Parson's expenses of $50 a year, and you were to give a note to the tenant saying: 'Please henceforth pay half your rent to the Parson or to such person as he may direct.' That letter would obviously be good each year for $50. The Parson might write on the back, 'Please pay the Sexton the $50,' and so discharge a $50 debt to the Sexton. That order could pass from hand to hand. It would then have become a form of money backed by the house. The letter would indeed constitute a claim upon the property to the extent of half its rental value. The Parson might make arrangements by which he could give an order to pay to someone half the sum, or a quarter, or a twentieth.[1]

[1] Money might be defined as the tokens of that part of wealth set aside to act as a medium of exchange. Professor Lehfeldt (*Money*, p. 100) put it thus:

"The world contains a quantity of real wealth—fields, houses, ships,

"Such an order would be quite good money so long as the house remained lettable and the tenant paid his rent. But if the house burned down, or the tenant became unable to pay his rent, this kind of money would become valueless.

"Again, it is in that sort of way that I propose to make the property I hope to create security for the orders I am issuing in addition to the gold.

"Each note will represent a tiny fraction of wealth which the Island will be producing. What fraction will depend upon certain things we will deal with later."

Most of the Islanders were reassured. They felt that even if there were a difficulty in getting gold for their bits of paper they would, in exchange for what heretofore had been useless bits of iron, get useful goods. It was plain that if the mechanically

machinery, stocks of corn, and so on. These, however, are unwieldy things to transfer, and consequently it has been found convenient to create a second, or representative, world of titles to real wealth—title-deeds, mortgages, debentures, shares, bills of exchange, and the like. Not all real wealth is so represented; furniture and clothes are not, except in rare instances, but much the larger portion is, and thereby attains a degree of negotiability that was unknown in earlier times. Wealth is not, in this way, increased in amount, but it is rendered more available in case transfer, i.e. trade, is desired.

"Since not even debentures or bills of exchange possess that universal acceptability which constitutes money, a second stage of abstraction has been created out of the first. Banks have been instituted whose financial standing is so good that their credit comes to constitute credit-money. But bank credit is not created out of nothing; it is derived from the real wealth belonging either to the shareholders or the customers of the bank. The process varies in detail, as appears from the variety of assets held by the bank. Thus, the shareholders' capital may be used to buy stocks or bills of exchange; deposits may be used in the same way, and other deposits may be constituted by loan, on the security of stocks or bonds pledged by the customer; but the essence of the matter is that a portion of the wealth existing under the form of negotiable paper is re-represented in the form of credit-money. And whereas the stocks and bills are not generally enough acceptable to serve as a means of payment, this emanation of value derived from them is."

See Chapter I, Part II, for further elucidation of this point.

minded Sailor succeeded they would benefit, even if they never saw his gold.

The Sailor, after explaining how difficult it was to put a limit in figures to the amount of notes over and above the value of the block of gold he might issue for buying bits of machinery, before he got an enterprise to work, proposed this rough and ready test of solvency:

"Every Saturday a considerable proportion of your people come to market. Such of you as feel nervous can arrange to meet at the Parson's and produce such notes as you hold and do not want to keep. If the total is above $500 you can ascertain from him whether any of my enterprises are at work, and if not, you can declare me bankrupt. That is to say, if at any time I have not gold or property equivalent to the bills you can produce at that meeting, then the Governing Committee of the Island can immediately take over gold, enterprises, everything."[1]

It was the influence of the Parson, perhaps, that induced the Islanders to accept this arrangement:

"The Sailor risks his gold. You risk your bits of machinery. If he fails, the gold will be divided

[1] As already explained the Sailor's currency comes nearest to what is known as "convertible fiduciary paper" which is exchangeable for specie but is not covered by a coin reserve of 100 per cent. Federal Reserve Notes are only covered to the extent of 40 per cent. by gold, the remainder being covered by Commercial bills of exchange. But this proportion does not indicate at all the ratio of a country's gold reserve to its *total* money. For every dollar in gold at least ten—at times many more—of credit dollars are usually created.

Now, if we consider that the Island had not yet developed a check system, that the Sailor's notes were to be the only money that it would know for a long time, and would be obliged to do the service performed in more developed communities by checks, the ratio of gold to total money is an "arguable" one.

among you. The security seems sufficient to cover your real risk. We are all in the dark to some extent as to what number of notes it will be fair to issue. Accept his test."

And so the Islanders accepted.

§ 5

Prices

The Islanders raised the important question of price. How were the things they sold to the Sailor to be valued?

How was the gold to be divided among the Islanders in exchange for their bits of machinery?

One of the Islanders, still a little muddled about the forthcoming or hoped-for goods, wanted to know whether he would get one sack or two sacks of flour for each of his bits of machinery; or only five hundred feet of lumber; or two yards of cloth or a hundred. As long as they talked goods, there was hopeless confusion. Nobody knew what anything was worth.

But one shrewd old Islander cut through the discussion saying:

"Don't let's talk of what we haven't got, but of what we have. We are delivering up our machinery for that block of gold which is to be turned into coins. Our understanding is that whatever gold the Sailor who has come among us has, is to be divided among those who are giving up the machinery we salvaged from the wreck. The price will therefore

depend upon how many coins there are and how many pieces of machinery.

Suppose there are fifty pieces of machinery, leaving out minor odds and ends, and that we accept this block as worth $500. Then we want $10 for each of those larger pieces. But suppose he has, in fact, a good deal more than $500—we have heard rumors of a second block of gold ten times the size of this on the table—if that exists and can be turned into coins, it is not $10 for each piece of machinery that we want, it is $100!" (And here the Islander positively bellowed, for he seemed to feel that this stranger was "putting something over on them.") "Which is it, Mr. Sailor, $500 or $5,000?"

The Sailor (who here guessed that some hidden Islander had watched his efforts to bury the large block) had to confess that when he landed he had two blocks, but that while attempting to hide the larger one it had fallen into the deep gully, was quite irrecoverable, and they must discuss things on the basis of the smaller block.

The Islanders finally agreed, but here the Parson intervened. He suggested that it was undesirable that all the bits of machinery should be bought at the same price. He pointed out that an Islander who had a dozen pieces of machinery which needed only putting together to make a flour-mill or a loom had a much more valuable collection than the Islander having a dozen pieces of which nothing whatever could be made.

He put a case something like this to the Sailor: "It is not the mere weight or number of pieces

which we have to consider, but whether they can be fixed together to make things of use to us. A hundred pieces of machinery with which you can do nothing are merely scrap-iron, worth five or ten dollars. The same number and weight of pieces that only need putting together to make a saw-mill or steam-engine might be worth thousands and thousands of dollars.

"The whole success of your schemes will depend on whether you can make one piece work with another for a definite purpose, whether they can be co-ordinated. I do not doubt that there is on the island here the wherewithal to build up the enterprises you are contemplating. The question is just whether the pieces can be found and then be made to work together. I suggest therefore that you furnish to all my fellow Islanders here a strong motive for finding the pieces that work together, or can be made to do so. I propose, therefore, broadly, this general system of pricing: an Islander who has only one item suitable for a saw-mill or a loom can charge, say $10 for it. But if the Islander has several pieces available for making the same thing he can charge very much more per piece. I suggest a scale which would be very steeply graded indeed—something along this line: one piece that fits with nothing, $10, but two that work together, $20 each; three, $30 each; and so on. We may differ, of course, when you come to buy, as to what is 'one piece' and may have to arrange for an arbitrator. But it is the general principle which I urge.

The sailor seemed to demur a little, and so the Parson (who perhaps knew better than the Sailor that strong incentive might have to be furnished if the Islanders were to disinter all the scattered odds and ends) enlarged on his reasons for such a rapidly rising scale.

"If you had only one machine to make we could ransack the whole Island and quickly put that one thing together, rejecting everything which did not serve. But you have many things to make, and if you are to succeed you must probably use everything there is. In the early stages of making the machines there will be plenty to choose from; you will probably make a point of using what is most readily available. But as the machines near completion the material will be nearly all used up, and will become scarcer and scarcer; there will be much less to select from. The value, then, of each piece that fits will become correspondingly greater. The workability of a whole saw-mill might depend upon finding one particular kind of cog or sheet of steel at a moment when nearly all the cogs and sheets had been used up. You should be prepared to pay a very steep price indeed for something without which all the labor on that machine might be useless. The Islanders might have to turn up a hundred tons of beach sand where the wreck went to pieces in order to find merely one missing piece. But it would be worth it.

"So that is why I propose this rapidly rising scale of prices, based on this principle of 'fitting in.' It is only those things which serve some human purpose that have value to us. Things which are plentiful and easy to get (and when we begin with our machines there will be so many to choose from that that will be the case) are cheap; things which have become rare and are to be got only at the cost of much labor (and that will be the case as our machines near completion) are dear."

Finally, this general idea was accepted, and after certain other details (which we will deal with in a moment) had been added an agreement was drawn up and signed.[1]

Much debate arose over the question as to what should be considered the value of an actually working enterprise when entered as security for the Sailor's notes; how much each would be worth when used as a substitute for gold; how many notes it would be permissible to issue on that security.

The Sailor explained that ultimately the value of the various enterprises would depend on the value of what they produced; the enterprises would have to be valued on the basis of the "capitalization of profits." But at first, since the profits could not be calculated, they would have to estimate the value on the basis of cost of construction. If a given machine had proved expensive to create it should be considered as a correspondingly valuable asset when completed, and so considered until experience in the shape of the value of the output called for a revision of the estimate. He suggested that the total price paid for the constituent parts, plus a certain amount as representing labor and management, would be a fair basis of calculation.[2] This was agreed to.

[1] *Note to Players and Demonstrators.*—Where the story is being read or told to a party about to play, it is at this point that the cards should be dealt and the Demonstrator explain the general idea of the game, as expounded in the section a little farther on headed "General Idea of the Game." The two remaining points in the story—what an enterprise, when the Sailor got it to work, would be worth as an asset in the Bank, and how the "joker "cards correspond to an actual situation, can be explained when those points are reached in the game. See pp. 86-90.

[2] For the way in which, for the purposes of the game, this is worked out, see Rule 1.

Other questions arose. The Sailor had, in the course of the discussions, found reason to believe that one or two of the Islanders were determined, if possible, to bring about his bankruptcy in order to take over the plan themselves, and he saw that he would have to insure against their ill-will; that if he did not there might be accidents to his windmill during a storm, or to the dam that he proposed to make for the saw-mill. He realized that he might have to purchase the good-will of certain Islanders.

His misgivings in this respect were justified later in the Island history. The milldam, for instance, was more than once broken by the straying of a farmer's cattle upon it, and not until he had paid the cost of fencing in that farmer's cattle could he be sure of getting it to work. This was a form of "insurance" that sometimes detracted from the value of his enterprises.

When the meeting broke up the Sailor said to himself: "I have been a sailor and an engineer, but now I'm a Banker. How many notes can I issue? Suppose . . ." And as he began "supposing" he found himself developing a sort of game, which finally he began to play with the Parson and a few special friends in order to clarify his mind as to how this thing of credit and currency and banking and money worked.

It is that game the reader may now play.

GENERAL IDEA OF THE GAME

Number Of Players Elastic

The game can be played by any number from four to ten, seven or eight being, perhaps, the best number. (Even three can play if the Banker is also a Player. But this is not recommended for beginners.)

The apparatus can be adjusted both to the number playing and to the time available (as well as to the intelligence of the Players) in the way described below.

Apparatus

The apparatus consists of two packs of cards, one pack of one hundred and two ordinary sized cards, and another pack of smaller cards, which are imitation miniature Bank-notes. For simplicity, the pack of ordinary sized cards will be referred to as "the cards" and the midget cards as "the Bank-notes."

The pack of one hundred and two cards is divided into ten sets, or suits, of ten cards each, and two "Jokers," known as "Insurance" cards. The rôle of these "Insurance" cards will be explained later. There are in addition a few scoring-cards used by the Banker to keep his accounts and the Players' scores and giving a table of card prices.

Each suit represents one of the enterprises which the Sailor-Banker is trying to establish on the Island, and the cards of the suit are a pictorial rep-

resentation of it. There is the Brickfield, Coal-mine, Iron Foundry, Loom, Pottery, Harvester, Flour-mill, Saw-mill, Trawler, and Wagon Works. The cards of each suit are alike.

The little circles in the middle of the cards with money figures, "One Truck," etc., have nothing to do with Game No. I—the main game—and should be disregarded. They apply to game No. II *only*.

If the Players are few, say five, including the Banker, it is advisable to eliminate three suits altogether in order to reduce the size of the pack to seven suits. If, whatever the number of Players, it is desired to shorten the time occupied by each game, the number of suits can be still further reduced, as also the number of cards in each suit. A suit of eight, say, can be regarded as a complete set. This elasticity is a great advantage, of course, as permitting the adaptation of the game to all sorts of circumstances.

But when these changes are made there should be corresponding changes in (*a*) the proportion of complete to incomplete suits, and (*b*) the size of the gold reserve, as indicated in the first "Note on Rules." For the first time of playing, however, a full pack, with not less than six players, is desirable.

The participants are divided between the Banker who stands for the Sailor in the story, and the Players, who stand for the Islanders (each Player representing a section of the Island population).

No cards are dealt to the Banker, who holds, however, the Bank-notes. The Banker (who should be someone already familiar with the game, either by

having played it or having beforehand read these instructions) acts as Relator of the Story, Lector, if those playing have not already read or heard it. He should also act as general conductor or Referee.

Each Player becomes Banker in turn.

Before the cards are dealt, all the suits except one, two, or three, as the case may be, are rendered incomplete by one card in the way described below.

When the cards have been shuffled and dealt, each Player will have, or is likely to have, cards of several suits in his hand. The Banker, representing the Sailor, uses his Bank-notes for buying cards from the Players.

The Banker goes on buying (with interval for dealing between the players) until all the suits are purchased or the Bank is broken.

It is the object of each Player to get as many Bank-notes as possible for the cards (representing machinery) he holds. The score of each Player at the end of the game is the amount of currency he holds.

If a Player gets more currency than the Banker can show security for in gold or complete enterprises (suits), then that Player can take over the Bank and score honors by taking half the currency held by the other Players. While, therefore, because of this latter rule, it is to the interest of any one Player to break the Bank, it is to the interest of the other Players to prevent him, which they can often do by means of the "Insurance" cards, or Jokers, as described below.

It will be remembered that according to the con-

tract made between the Banker and the Islanders, no enterprise could be considered as good security for notes until it was complete, actually at work—that is, until he had got some enterprise actually operating, nothing but his gold could count as security for the notes he might issue.

Now for the playing of the game most of the suits are rendered incomplete by extracting a card in such a way that neither Banker nor Players know which they are. Thus:

Before shuffling or dealing the cards, take a card from each of the ten suits, making them into a separate pack of ten; shuffle them and return one, two, or three cards, as the case may be, to the main pack without either Banker or Players seeing which they are. If the number of cards remaining after withdrawing, say, seven cards from the pack (one card from each of seven suits), is not divisible equally among the Players, more than one card can be withdrawn from one or several of the seven incomplete suits.[1]

Until the Banker has a *complete* suit he has no assets but his five hundred dollars in gold. He must be careful, therefore, so to manage the purchase of cards as not to put into the hands of any one Player (each Player representing a section of the Island population) more than $500 until a complete suit has been purchased.

In order to carry out the principle of the steep grading of prices for elements of the same machine

[1] Slight inequality in the number of cards held by Players is less important than in most games.

(as discussed in the Story), cards bought by the Banker (who can purchase the suits in any order he likes, but who, having started to purchase a suit, must buy all thereof on the table) are valued as indicated in Rule I; that is to say, the more of the same suit a player holds the more valuable does each card become.

The Banker will try at first to buy those suits pretty evenly distributed among the Players (short suits). If he decided to buy first, say, Potteries, and one Player held eight cards, he would have to pay $80 each—$640 for the lot. If Potteries proved an incomplete suit he would be bankrupt at the start, since one Player would hold $640 against the Banker, who could show no asset but $500 gold.

How the Banker can judge in some measure which suits are held "long" will be indicated by the description of the playing of the game.

But while the Banker tries to avoid buying at first those suits held mainly by one Player, it is to the interest of each Player to have suits as "long" as possible, since they are worth much more per card than "short" suits.

Certain other details, necessary to the playing of the game (like the valuation of complete suits or assets, on the basis of cost, discussed in the Story) are covered in the following eight rules.

RULES

I

Prices

A Player holding one card of a given suit can charge $10 for it when it is called for by the Bank; if he has two cards of the same suit he can charge $20 per card (i.e., $40 for the two); if three cards, $30 per card ($90 for the three cards), etc. To get the value of a suit multiply the "basic" price of $10 by the number of cards of the same suit, and that is the price per card.

While the price paid by the Bank to the Player is governed by contract, and Players are compelled to deliver to the Bank at that price, the prices at which Players sell to each other is purely a matter of bargain, and Players can sell or not at the prices offered by other Players as they see fit.

When the Banker has a complete suit he can enter its value as an Asset in the Bank as ten times the highest price paid for a single card. Thus, if four cards of one suit was the largest series of a given suit which he bought of one Player, the highest price per card paid for that suit would be $40. He is entitled to enter the complete suit as an Asset worth $400 and to rank it as security along with the gold for the notes he issues.

II

Insurance Cards or Jokers

There are two "Jokers" or "Insurance" cards If both are dealt to the same Player there must

be a partial re-deal—each Player handing back, say, two cards to the dealer, who will then re-deal so as to avoid both jokers being held by the same Player.

A Joker can be used by the Banker, after he has purchased it, to complete any otherwise incomplete suit he may have bought. But in entering such a suit as an Asset in the Bank he must deduct from its value the cost of the Insurance card. Thus, if the Banker has an incomplete suit of Looms, and $50 represents the highest price per card (which would mean that one Player had held five) paid by the Bank, and to complete this suit he had to give $200 for an Insurance card, he can only enter it in the Bank as worth $300. If it had been a complete suit without the Joker, he could enter the Asset as $500 (ten times the value of the highest priced card).

As this card will enable the Banker to complete any incomplete suit held by him and to enter it as an Asset, the Player holding it can, by selling it to the Banker, nearly always prevent another Player breaking the Bank.

The price which the Banker will pay for it will depend (*a*) on the value of the suit which it will complete, and (*b*) on whether the receipt of the sum demanded by its holder would enable that player, in his turn, to break the Bank, i.e., present more currency than the Bank can meet by gold or completed suits.

The Banker can purchase a Joker by "Dutch Auction," putting one holder in competition with another.

As soon as the first Joker has been sold, the

holder of the second can sell it as one of a suit to the Banker, provided the suit with which he offers it is an incomplete one. It must not make an eleventh card.

III

Breaking the Bank

A Player who holds more notes than the Bank can show cash Assets for in the shape of gold or complete suits or both, can declare the Bank broken and demand to take it over, unless the Bank can restore its solvency by creating an Asset through the purchase of an Insurance card. Failing this the Players pay over half their currency to the Breaker who takes the Bank and starts *an entirely new game* on the basis of $500 capital like his predecessor. (See Rule VII as to scoring.)

IV

Sales to the Bank

Players must deliver all the cards which they hold of a given suit when called for by the Banker at the price agreed—each card to be worth the "basic" price ($10) multiplied by the number of cards of that suit which the Player holds.

The Banker having begun with the purchase of cards of one suit, must go on with that suit and buy all there are, and must not change over to another suit.

V

Buying and Selling between Players

The first round of buying and selling between Players is by barter—a given Player exchanges his

singletons or the cards of his "short" suits for cards belonging to suits of which he has a larger number. As soon as one round of bartering is done the Banker buys three suits. The Players then buy and sell for money for one round (each Player having the right to make one sale and one purchase in the way described in the next rule). The Banker then buys two more; the Players then buy and sell among themselves; the Banker buys two more; the Players buy and sell once more; and the Banker then purchases the remaining three suits. This will give three rounds of buying and selling as between Players (if the Bank survives to the end). If the number of suits has been rendered very small, the order of Banker's purchases and Players trading can be varied accordingly.

VI

One Offer of One Suit to One Player at a Time

A Player can only make one sale or one purchase at each round of dealing between the Players, and can only offer to sell or buy cards of one suit at a time, though as many of that suit as he likes and can vary the number in bargaining as he likes. His offer must be made to one Player at a time, and having gone on farther down the table and failed, he cannot return to the earlier ones. If, having offered to sell, say, Windmills, there are no takers, he cannot then try another suit; and if he offers to buy, say, Potteries from his nearest neighbour and he has none, the Player cannot ask for another suit, but must go round the table in turn for Potteries.

If it is desired to accelerate the action of a game,

the Players can make the rule of a sale *or* purchase by each Player, instead of one of both.

VII

Method of Scoring

The currency left in the hands of the Players when the Banker has bought all the cards represents the score which each has made. The Banker's score is the total of his assets (the value of the complete suits plus the gold), minus the largest single score among the Players if they are five or less, and minus the two largest scores if there are more than five Players.

If a Player succeeds in breaking the Bank, he scores honors by taking half the currency in the hands of the other Players, as well as the total of his own, and makes that his score. (A means of applying this scoring method to playing for prizes, money, etc., is indicated below.)

VIII

Banker as Referee between Players

If in the view of the Banker a bargain between two Players is taking too long, he may impose a time limit by counting five.

NOTES ON RULES

Playing with Fewer Suits and Cards

When the number of *suits* is reduced, the proportion of *complete* suits should be correspondingly reduced.

Playing with seven suits, there should be only

one complete, and if the Banker is to have a difficult task, *no* complete suits, leaving him to depend upon the Jokers.

When the number of cards in each suit is reduced as well (eight making a complete suit), then the gold reserve should be considered as $350 instead of $500.

Beginners should, if possible, play with the full pack and with not less than six players participating.

Breaking the Bank

Breaking the Bank should not be regarded as a necessary or normal climax to the game, but as a quite exceptional event. The scores in the game are measured by the currency held, and under the ruling as to scores a Banker may well hold out to the end of the game yet find himself low down in the scoring. (A Player who takes the Bank after breaking it starts afresh with the $500 gold as his capital.)

Handicapping

It is one of the advantages of this game that the Banker can be handicapped. That is to say, the game can be so arranged as to make the Banker's task an easy or a difficult one. If, say, three out of the ten suits are left complete, so that the Banker can, with the aid of the Insurance cards, count on five suits coming into the Bank as assets, it will be an extraordinarily difficult thing for the Bank to be broken. If, however, only one suit is left complete, the Banker is very likely to be broken, unless he has great luck and shows great skill.

For the first game or two, in order that the Bank should not be broken until the Players are familiar

enough with the game to take it over, the Banker may be permitted to know which are the complete suits. In this way a whole game can be played out without introducing the problem of an inexpert Player taking over the Bank.

Playing for Prizes, Money, Etc.

If the game *must* be played for money, the method is simple. Where the Banker's score at the end of the game is lower than that of an individual Player, the Banker pays the Player the difference. Where the score of the Banker is higher, the Player pays the Banker the difference. When the Bank is broken, and the Player breaking it takes half the currency on the table, the same rule may apply, the old Banker having to pay the new an amount equivalent to the largest sum paid by any one Player.

As to equality of chances between Bankers and Players, it should be remembered that (*a*) the Bank can be handicapped in the way described; (*b*) the Bank can be taken in turn by each Player; and (*c*) if it is desired so to accelerate the action of the game as to give each Player a chance at the Bank on the same evening, the number of suits can be reduced as well as the number of cards in each suit.

HOW TO PLAY

A Game Described

This game (the Supplementary games come of themselves, almost, when the first and principal game has been mastered) has been learned by children of twelve in the course of a single evening suf-

ficiently for any one of them to become an efficient "Banker" in a game and for the group later so to "infect" a school that the whole of it, more or less, was playing the game enthusiastically at the end of a couple of weeks.

But no game learned from a book will be successful unless certain methods are employed. You cannot sit down with a party of friends never having seen this game played, nor opened this book, nor examined the cards, and expect in half an hour to be playing. That is not the way to tackle it.

If you propose to introduce the game to a party of friends, master the relevant part of this book beforehand, or get someone to undertake to do so. It is only necessary that *one* of a party should have a fairly clear idea of the thing. One can read it up beforehand for the benefit of a whole party. Indeed, the game is one which in its first playing needs a Leader—"Conductor." To qualify to become such all that is necessary is this:

(1) Thoroughly learn the Story of the Sailor's adventures as here told, especially the debate between the Sailor and the Islanders.

(2) Read next the "General Idea of the Game," so that you realize how the Game is merely a working out of the situation existing on the Island.

(3) Glance at the rules, and have them handy for reference when playing.

(4) Follow the general lines of this Description of a Game when you first play.

(5) Have it agreed that for the first time of

playing the Banker shall be permitted to know which are the complete suits, so as to avoid the complication of the Bank being taken over by a novice.

If it is possible for each member of a party intending to play to read the Story of the Sailor, so much the better. It will economize time for the first game. If an adult is proposing to teach the game to youngsters, it is a good plan to relate the Story carefully and completely (making sure, by questions, that it is understood) on one occasion and to play the game on another. To tell the Story fully and to get home the points of the Sailor's argument takes half an hour. If the game is played at the same sitting it is well to withdraw two or three suits (but not to reduce the number of cards in each) and to cut down the buying and selling among the Players to two rounds.

In the telling of the Story, as distinct from reading it, the narrator can begin with the landing of the Sailor on the Island, bringing out these points (which he might write out and have by him for reference):

(1) A ship only calls at the Island at intervals of years.

(2) The scattered machinery from the wreck suggests enterprises in which he might use his gold.

(3) Gold is in solid blocks, which he cannot turn back into coins.

(4) Loss of the larger block. (It reappears in the Story later.)

(5) Essence of his proposal is to give owners of the machinery orders which can be exchanged for the coins when these are returned a year or two hence from a foreign mint.

(6) Objections of Islanders and replies of Sailor are:

(*a*) Coins may prove less numerous than orders, to which the Sailor replies by making his enterprises as well as gold security for notes.

(*b*) The Sailor may not succeed in his schemes. To this the Sailor replies that *until an enterprise is at work* he will so limit orders that any likely to be presented can be redeemed in gold.

(*c*) The test of solvency is that if at any time one section of the population can show orders in excess of the Sailor's assets in gold or property, then he can be declared Bankrupt and they can take over the whole enterprise.

(7) The price originally established for the bits of machinery depends on whether the two blocks or the one were available; whether, that is, the Sailor started with five hundred or five thousand dollars.

(8) Why the Parson wanted a steeply graded scale of prices.

It is at this point that the cards should be introduced and dealt. The Banker should sit at the head of the table, with his Bank-notes arranged ac-

cording to their denominations in the appropriate compartments of the "box" attached to the binding of this book, and with a score-card. The Players can also have a score-card before them if desired, as on one side of these is printed a "scale of prices" to help those whose mental arithmetic is a little weak when it comes to calculating the value of a suit which they hold. The "rate of profit" which accrues from selling cards to other players is given in the table which appears on page 96, and which should be copied out and placed within convenient reach.

The Banker should point out that:

(1) The main pack is made up of a hundred cards, ten suits of ten cards each, with two Jokers.

(2) Each suit represents one of the enterprises the Sailor-Banker is attempting to establish.

(3) The Banker represents the Sailor, and the Players the Islanders.

(4) The general idea of the game is for the Banker to buy the suits, one at a time, with his orders or notes (show them).

(5) The scores of the Players will be counted by the amount of currency which each Player holds; if any Player can get $500 before the Banker has any Assets except gold, that Player will break the Bank and take half the currency on the table.

Defer for the present, so as not to make the description confusing, (1) the fact that a number of the suits are incomplete, (2) the rôle of the Jokers, (3) the method of pricing the Assets, (4) rules as to buying and selling between Players. Save those points until you come to them in the game.

The cards having been dealt to the Players (care having been taken to render a number of the suits incomplete in the way described above), the Banker, who should also be the director of the game, announces that before he begins buying cards from the Players they will have the right first to improve their hands by barter. That is to say, each Player will have the right of offering to exchange a card he does not want for one that he does.

The Banker should point out how this rule, like every rule of the game, is related to the events of the Story. He might explain: "Of course, the first thing that happened when the Islanders left the meeting at the Parson's house was that they woke up to the fact that they would get much more of the Sailor's money if they so swapped round their bits of machinery that each had more pieces that belonged together and made part of the same thing. So, for the first round, but for the first round only, the Players have a chance of exchanging their cards, so as to improve their hands. You, the Player on my left, take any singleton that you have—or cards of any short suit—and offer to sell to your left-hand neighbor for a card belonging to a suit of which you have several. You want to sell a Pottery for a Loom? Would it (addressing the second Player on

left) improve your hand to add to Potteries and get rid of Looms? No? What about you?" (addressing the third Player). For if the Player cannot make the exchange with his next neighbor, the offer can be made to the next neighbor, and so on round the table. But the offer must not be changed *en route* nor be met by counter-offers. The answer to the offer must be "yes" or "no." This rule, which looks so arbitrary, is necessary in order to prevent such slowing up and confusion in the action of the game as to spoil it as a game. (See Note 3 below.)

As soon as the Player making the offer has made an exchange he can make a second offer, again beginning with his left-hand neighbor in the reverse form by saying, "I want a Loom for a Saw-mill." This offer he makes in turn round the table until it is accepted or he has made it to all the Players unsuccessfully. (Not all the offers will result in exchanges, of course.)

For the first few times of playing when the action is apt to drag, Players should be limited to *one* exchange instead of two.

When the first Player to the Banker's left has made his two offers, it is the turn of the next Player on the left to do the same, and so on till all have bartered.

The Player can offer two cards (of the same suit) for cards of another suit if he prefers, but the rule to be observed is that the reply to the offer must be "yes" or "no," not a counter-proposal.

And it is at this point that the Banker-Instructor can bring in the fact of the incomplete suits, ex-

plaining how it has been arranged so that no one knows which the incomplete suits are.

The explanation having been made clear the Banker goes on: "I am now going to buy a suit—Potteries."[1] He says to the Player on his left: "How many Potteries have you got?" The Player must deliver all he holds of that suit at the agreed price. He says, "I have two Potteries." The Banker therefore pays him $40 in Bank-notes for the two Potteries. The next Player has only one and gets $10. But the next has four and gets $160. The next has one and gets $10, the next has one also and gets $10. The others have no Potteries.

The Banker, as the result of his purchase, has only nine cards. He has bought an incomplete suit and cannot enter it as an Asset in his Bank. But he makes a note on his score-card that he paid $40 for the highest priced card in it. The reason for this will appear later.

The largest amount of currency held by any one Player is so far only $160. The position of the Bank is entirely secure, according to the contract.[2]

Five of the Players have money. The Banker purchases a second suit, say Looms, in precisely the same way as the first. This second suit is also

[1] He should explain that he has been watching the bartering so as to judge which suits are held "long" in order to avoid buying them until he has an Asset—a complete suit.

[2] If we consider the total issue of Bank-notes as liabilities and the completed suits as the only Assets, the Bank is insolvent, of course, *before* it is broken under this rule. But the completed suits can, in the circumstances, be regarded as "Cash" Assets, and the incomplete suits as Deferred Assets. In normal banking the total of depositors' claims is usually very many times the actual cash available. A common proportion is a total of deposits six or seven times as great as immediately available cash.

probably incomplete (having only nine cards, that is) and cannot be entered as an asset in the Bank. Moreover, it may have cost him rather more than the first suit, one of the Players having five Looms, the five thus costing the Banker $250, a second Player having three, for which the Banker had to pay $90, and a third Player one, for which he pays $10. The suit has, therefore, cost him $350, and as the first suit cost him $230, he has now $580 of his notes in circulation. This is more than the value of his gold, but he is hoping, of course, very soon to have a complete suit, a working enterprise, securities which can rank as assets. Unless he has had the extreme bad luck to have bought his five Looms of the same Player that held the four Potteries, no single Player can present more notes than the Banker holds gold for, and, by the contract, until that happens, the Banker can carry on. (See pages 58, 72.) It will be remembered that, as illustrating conditions on the Island, each Player in the game represents not one Islander but a whole section of the population, as large a section as are likely all at once to present notes.

The Banker buys a third suit in the same way, unless the number of suits in the pack has been reduced owing to the players being few in number.

The Banker having purchased three suits, it is now the turn of the Players to buy of each other for money. (Bartering is only permitted for one round at the beginning of the game, before the Banker has made purchases with his Bank-notes.

After that the Islanders can buy and sell only with money.)

The object of each Player is, of course, to improve his hand so as to get better prices from the Banker. (The Players, though bound by a scale as to the price at which they shall sell to the Bank, are quite free as to the price at which they shall sell and buy among themselves. See Note 2.)

Acting now merely as Chairman of the game, for the trading this round is between the Players, not with the Bank, the Banker says to the Player on his left: "What are you selling?" In reply to the Banker's question, the Player, choosing a card of some suit he wants to dispose of, probably a singleton, says to his left-hand neighbor, "I am selling a Brickfield and want $25 for it. Are you dealing?" That neighbor can bargain if he likes, make a counter-offer, but it must be in reference to that suit. He cannot say, "I don't want your Brickfield, but I'll give you $25 for a Trawler." He can offer any sum he chooses for the Brickfield. If the first Player does not accept the offer, it can be made to the next Player, and so on round the table until the seller makes a deal or has offered to everyone.

He can then offer to buy, and the same rule of making the offer in turn to each Player and not to the table as a whole, and of the Players confining their counter-offers to the price of the card or cards offered, holds. The Player says: "I am buying Coal-mines and offer $20 for a card." The Player to whom the offer is made can say: "I want $25," but he cannot say, "I am not selling Coal-mines,

but I'll let you have a Harvester cheap." Nor can a Player, three or four places down the table, shout, "I'll let you have a Coal-mine." This impatient bargainer must wait till the offer is made to him. (See Note 3 below.)

No borrowing from the Bank or from one another is permitted in this game. If a Player at this early stage has not got money by the sale of cards to the Bank, he must either sell some of his cards to other Players or wait until the Bank asks for some suit which he happens to hold.

When the Players are buying and selling to each other, the question of price—what is a given card worth?—comes up, of course. This is dealt with in Note 2.

It will help the Players to copy out and have handy upon the table the "scale of prices and profits" as given at the end of the notes to this description. (Page 96.)

When each Player in turn has had an opportunity first of selling and then of buying, in the way described, it is the turn of the Banker to buy.

Before doing so, however, the Banker might take the opportunity to introduce the matter of the valuation of assets by saying:

"Now suppose this time I manage to buy a complete suit of ten cards, what will the Asset be worth in the Bank as cover for notes? It will be worth ten times what I pay for the card of highest price in the suit. Assume I buy Coal-mines and the Player has six cards, I shall have to pay $60 per card to him, and if that suit turns out to be a ten-card suit

I can enter it in the Bank as worth $600." And the Banker might explain that it is not as arbitrary as it looks. Valuation of property on the Island could not at first be based on capitalization of profits, because so far there were no profits. Some valuation based on costs had to be devised. This was as fair as any. (See Section 5 of the Story, page 59.)

Having made the principle of valuation clear, the Banker can go on buying.

It will probably happen (or, if the Banker has been allowed for the purpose of demonstration to know which suits are complete, he can, for the sake of illustrating the rôle of the Jokers, make it happen) that in buying this third suit the Banker will put into the hands of one of the Players enough currency to give that Player (who may also have been increasing his currency by sales to fellow-Players) more than $500 in Bank-notes. Unless the Banker has, in this third suit, pitched upon one that happens to be complete, thus enabling him to enter it as an Asset, he will find himself unable to meet in cash the notes that the Player with more than $500 can present. That Player will declare the Bank broken and demand to take it over according to the contract.

But a recourse is open to the Bank. Two Players hold Insurance cards or Jokers. (There is a rule to the effect that if, by extraordinary chance, one Player is dealt both Jokers, there must be a partial re-deal.) It is at this stage that the Banker will explain—illustrating as he does so—the rôle of the Joker card, which is to enable him, when he has

bought it, to complete any incomplete suit, and so enter it as an asset in the Bank. (The rôle of these Insurance cards is explained on the cards themselves. Their relation to the circumstances on the Island has already been referred to—page 64—and is further explained in Rule II, page 70.)

The Banker will, of course, use the card, when he has bought it, to complete his most valuable Asset, which happens, suppose, to be Looms. He paid $50 per card for a series of five, and this will enable him to enter it, when complete, as worth $500, less, however, whatever he may have to pay for the Joker. (The cost of insuring a suit must be deducted from its gross value.)

The Banker announces, "I am buying Insurance. Is anyone selling?" A Player holding an Insurance card asks, "What's the value of the enterprise if you can insure it?" (The Players are entitled to such information.)

The Banker replies, "$500. And how much currency do you hold?" (The Banker is entitled to such information.) The Player replies, "$300." The Banker is confronted, therefore, with this situation: one Player holds, say, $550, another (who has an Insurance card for sale) $300. If the Banker can buy the Insurance card for $250, and with it complete a suit worth as an Asset gross $500 and net (i.e. minus cost of insurance) $250, the cover for his currency will then amount to $750 (i.e. $500 gold and an asset worth $250 net), and he will be confronted with two Players each with $550. If he has to give $300 for the Insurance his total Assets will

be $700 and one Player—the seller of the Insurance card—will hold $600 currency. In these circumstances $300 is probably the utmost he will give and will try hard to get it for less by putting the Players with two Insurance cards in competition one with another.

No Player wants to see another break the Bank; it means surrendering half one's currency to the breaker, and (if the company is playing for money) paying the difference between his reduced score and that of the new Banker when the latter has collected half the money on the table. The holders of Insurance cards realize this. They will not ask a price which, after getting it, would enable the holder of the Joker to be also in a position to break the Bank. Obviously the Banker would not pay such a price. Nor will the holders of the Jokers bid each other down to a derisory price since the second Joker, if not bought as insurance by the Banker, can be sold by the Player who holds it as an ordinary card, if he delivers it with cards belonging to a nine-card suit. It may prove worth $190 to its holder (assuming that he manages to get all the nine cards of an incomplete suit) even if the Banker does not need to buy a second Joker. There is thus provided a means of estimating both the minimum and maximum value of the Joker cards, and the price at which they are sold to the Banker will be governed accordingly.

So we will assume that the Banker is able to insure his Loom for $250, which gives him a margin

of $200 over the Player holding the largest amount of notes.

After the Players have each had a chance to sell and buy among themselves, the Banker embarks upon the purchase of his fourth and fifth suits, and he may be lucky enough this time to pitch upon a complete suit. In that case, even if one Player holds, say, eight cards of it, so that the Banker has to pay $640 for the series, he is able to enter the suit in the Bank as an Asset worth $800, and his position is improved.

After this the Players sell and buy among themselves once more, the Banker, as presiding officer, being careful to see that a Player sells one suit only, offering it in regular turn clockwise, and buys one suit only in the same way, stopping when he has completed one sale and one purchase. (See Note 3 on page 94.) It is then the Banker's turn to buy the sixth and seventh suit, after which the Players will buy and sell among themselves for the last time, as it is usual for the Banker to buy the last three suits without any intervening deal among the Players.

When the whole of the suits have been purchased, the Banker, always assuming he has not been broken (and for the first game or two, until the other Players are expert enough to take the Bank over, he may be permitted, as already suggested, the irregularity of knowing which suits are complete, thus being sure of carrying on to the end), will enter the scores on a score-card. Each Player counts his Bank-notes and tells the Banker what they amount to. The Banker adds up his total

assets (including his gold) and deducts therefrom the score of the Player at the top of the Players' list, and if the Players are more than five the two top scores. What remains is the Banker's score.

For those who *must* play for money the method is indicated in the notes on the rules. Where the Banker's score is less than that of the Player, the Banker pays the Player the difference. Where the Banker's score is more, the Player pays the Banker.

At first the Banker's score is likely to be in excess of that of most of the Players. (This will depend, in part, on the number of the Players.) If this continues, increase the handicap of the Banker by making another suit incomplete. Things will be equalized by the fact that the Bank, when the Players have learned the game, is taken in turn by each; and the turns can be accelerated by reducing the total number of suits from ten to eight or seven, or less. With a reduced number of suits and only five or six Players, a game could be played out in ten minutes or a quarter of an hour.

Players who, introducing this game to friends, desire to bring out its economic illustrations should, of course, make themselves thoroughly familiar with the next chapter.

NOTES ON ABOVE DESCRIPTION

Note 1

Breaking the Bank: In Whose Interest?

The interest or excitement of the game does not depend upon a frequent breaking of the Bank, which

should be looked upon as a quite exceptional and unusual event. The object of each Player is a good score, and as the Banker is subject to a scoring rule like the others, he by no means necessarily wins a game because he holds out to the end. He may, indeed, lose very heavily.

By the rules of the game, a Player who manages to break the Bank scores all his own currency and half that of all the other Players, whose scores are correspondingly reduced.

It will thus be seen that though any individual Player has an interest in breaking the Bank, all the other Players have an interest in preventing him, illustrating a situation frequently arising in financial affairs. In so preventing a Player from breaking the Bank, the Insurance cards, or Jokers, play a large rôle.

The Player who holds an Insurance card has an interest in selling it to the Banker, because (*a*) it will prevent a rival Player from breaking the Bank and taking half the currency on the table; (*b*) it will give a chance to the Player holding the Insurance card himself to break the Bank at a later stage; and (*c*) add to his score whatever he can get from the Bank for the card. The Banker in buying an Insurance card does so by "Dutch Auction," putting the two holders in competition with each other in the sale to himself. He will prefer, of course, to buy it from that one of the Players who has less currency than the other, and will not give for it such a sum that even after its purchase the Bank is still bankrupt.

The Banker has the right to bid for the second card to use in the same manner as the first.

Note 2

Prices and Profits in Deals between Players

It will be remembered that though the Islanders have a contract with the Bank as to the Price at which they shall sell, they have no contract with each other, and an Islander—Player, that is—is free to get what he can for a given card from another Player. What that Player will give depends upon the number of cards of the suit in question that he holds. The seller must make a guess how many of the suit which is being purchased the buyer holds. A watchful Player can, of course, often judge this by noting the purchases other Players make. Suppose a Player has three Potteries and is offered a fourth. As a set of three, the Bank, when it comes to buy them, will give $30 each—$90 for the lot. As a set of four, the Bank would be obliged to give $40 apiece—$160 for the lot. Whatever figure under $70 he can buy the card for will be profit. But the seller must not expect to get that price, several considerations tending to reduce the value of the card in the market, as (1) the prospective buyer may not have the money; (2) the buyer takes a risk—the Bank may go broke before it asks for Potteries, and in that case the Player will have purchased a costly card at a dead loss; (3) although it may be worth $70 to the buyer, the seller does not know the number of Potteries the buyer holds; (4) and although it may be worth $70 to the buyer, the buyer knows that it is only worth $10 to the seller if the Banker should call for Potteries at the next round. Why should all the profit go to one party in the deal? If it is to the advantage of the

buyer to get it for something under $70, it is also to the advantage of the seller to get anything he can above $10. These considerations must be balanced one against the other, and a deal in which the advantage is shared between both parties striven for. Some educators have expressed the fear that the game may tend to develop the acquisitive tendencies; but the game in its working out gives very sharp lessons in the unwisdom of asking for extortionate or one-sided advantages. Again and again one finds players who have refused $30 or $40 for a card obliged later to surrender it to the Banker for $10.

At the end of these notes is a scale of "Prices and Profits," which can be copied out and placed on the table in order to avoid necessity for much mental arithmetic.

Note 3

Banker as Chairman and Importance of Rule V

This game flows more easily and quickly if the Banker is also a sort of Chairman or Conductor, and becomes responsible for seeing that the action is not delayed and that the rules are kept. Especially in the bargaining between the Players, two participants, keen on their higgling, are apt to occupy an unfair amount of time unless kept to the point. When trading between Players begins the Banker can quicken action by saying to his left-hand neighbor: "Now, what are you selling in order to get money? Potteries? One or two? How much are you asking? $50 for the two?" and then to the next Player: "Are you prepared to give $50

for two Potteries? No?" "Then are you?" (addressing himself to the third Player), and so on.

Once the Players are accustomed to the game this prompting will not be necessary. The ideal is a quick "Yes" and "No" bargaining or quick counter-offers. "$70 for a Loom? Chase yourself. I'll give you $30 and not a penny more."

The bargaining is great fun and very absorbing, and it is all to the good that it should be keen. But it must not become *confused* so that the traders do not know whether they are buying or selling, or what they are buying and selling. To help in avoiding confusion is the Banker-Chairman's task.

Experience, indeed, shows that the thing to be on the watch for in this game, if one wants to make it a success, is not so much the complexities which at first sight appear puzzling, but the apparently very simple thing of the buying and selling as between the Players. The Banker, as Chairman, must make it an iron rule that a Player, in trading with the others, must first *sell*, by offering a card or cards of one suit only; must offer it first to his left-hand neighbor, and then, if no deal is done, to the next, and so on; and must not, having started with one suit, change over to another; must insist that the Player to whom the offer is made must bargain about the card or cards of that suit *only*, and cannot introduce offers with regard to other *suits*. The rule is one sale of one suit and one purchase of one suit to one Player at a time. If a Player, having failed to make a deal with another, passes on to the next Player, and fails to make a deal with that one, he cannot then return and go back to the first. The restriction still leaves plenty of scope for dealing, as each Player can not only

A TABLE OF PRICES AND PROFITS

One card is worth			$10	The addition of one card increases the value of the suit by						$30
A	2	card suit is worth	$20	"	"	"	"	"		$50
A	3	" "	$90	"	"	"	"	"		$70
A	4	" "	$160	"	"	"	"	"		$90
A	5	" "	$250	"	"	"	"	"		$110
A	6	" "	$360	"	"	"	"	"		$130
A	7	" "	$490	"	"	"	"	"		$150
An	8	" "	$640	"	"	"	"	"		$170
A	9	" "	$810	"	"	"	"	"		$190
A	10	" "	$1,000							

make offers of purchase and sale, but has such offers made to him *by* each Player.

The object of these rules is to avoid confusion and slowing down the general action of the game. The Banker must exercise his authority as Chairman to see that they are observed. Otherwise a game which, properly played, is so fascinating that players have sat up all night over it, may break up in confusion and weariness.

CHAPTER III

TWO SUPPLEMENTARY GAMES

[*These games should not be attempted until players are thoroughly familiar with the first game. Those who are interested in the economic illustrations conveyed should read the next chapter before going on to the two supplementary games.*

These games reveal a great deal of the nature and mechanism of money and banking without any explanation at all—the games themselves are the explanation. Nevertheless, the full meaning may be seized more quickly, perhaps, by the reading of the next chapter. It will certainly add to the interest of the game itself for the Banker to point out the eight outstanding facts which are enumerated at the beginning of the next chapter.]

The supplementary games—sequels to the first and main game—are quite easy to learn, but are not, as games, as absorbing as the first. They should be regarded mainly as a means of economic illustration and will appeal principally to those who have learned to find in the main game a new means of explaining and elucidating economic problems. The second game is based upon a development of the Story, which should be carefully followed. This second instalment of the Story itself brings out in a very simple form the way in which an expansion of

money without corresponding expansion of goods is bound to increase prices.[1]

THE STORY CONTINUED

The Second Block of Gold Discovered

The Sailor, after many disappointments, but profiting in the management of his Bank by much that his game taught, at last got some of his enterprises successfully working. The Saw-mill began to turn out lumber, the Loom cloth, the Coal-mine coal. And at first those who helped him took payment in the goods themselves; but as a greater variety of goods began to accumulate in his stores, the Islanders gradually got into the way of using the notes the Sailor had given them for their bits of machinery, both for making exchanges amongst themselves and for buying goods at the Central Stores which the Sailor had established.

He was glad to get some of the notes back from the Islanders in this way, because it diminished the danger in which he might find himself, by, perhaps, the failure of one of his enterprises, of having insufficient Assets to conform to the terms of the contract.

And then something rather disturbing to the Sailor happened. Some Islanders, fishermen, and men who had begun to work in the Coal-mine or Quarry, dredging at the mouth of the gully one day, came upon the Sailor's second block of gold, the big one, worth about $5,000, and immediately

[1] See Chapter I, Part II, for certain qualifications of this general principle.

laid claim to it as their property. They were puzzled as to what to do with it, and not being very inventive, copied part of the plan with which the Sailor had first familiarized the Islanders. The discoverers of the block took it to the Parson and announced that they would issue notes against it, and that, as they had now plenty of money, they intended to do no more work, to catch no more fish, and mine no more coal.

They intended, they said, to set up a rival Bank. But in one particular they did not imitate the Sailor. They did not create wealth-producing enterprises out of heretofore unutilized material (indeed, they would have been confronted by the difficulty that nearly all the machinery had now been bought up, even if they had had the technical knowledge and skill of the Sailor-Engineer).

"Why should we work when we have plenty of money?" they argued. "And the Sailor cannot well refuse to sell us the goods from his Stores, since our new money is better than his. For ours is backed entirely by gold and not by enterprises at all." Many Islanders began taking these new notes, giving in exchange things of daily consumption.

What was to be the Sailor's policy in this new situation?

After consideration he decided upon two steps. The first was to announce that he would accept these new notes in payment of debt, or for goods, as of equal value to his own; the second was to warn the Islanders that the price of goods would now rise. Both announcements at first surprised the

Islanders. Some of them pointed out that when the Sailor, as the result of setting his Saw-mill to work, had added an Asset to the Bank, and on the strength of it issued more notes, he had not increased prices. Gold was a better Asset than saw-mills or looms; why should he now demand more notes—his own and the new kind—for the same quantity of goods?

But it was not long before events confirmed the Sailor's forecast. It was the custom on the Island for one designated person to come from each settlement on Saturdays to the Stores and buy whatever that settlement needed for the whole week. And the Sailor had established the custom of selling all the staple goods by auction after the "delegates" from all the Settlements were assembled. (It had proved, on the whole, the fairest way.) He would thus put up for auction a truck-load of coal, or a thousand feet of sawn lumber, or so many yards of cloth. It frequently happened, of course, that a delegate was not able to buy all he wanted of a given product because some rival delegate outbid him.

But when the fishermen and miners, who had discovered the second block of gold, went back to their villages, with every intention of living on the fat of the land, each said in effect to his delegate: "I'm determined to have this cloth (or coal or fish as the case may be). Don't come back without it. Never mind what the other fellow bids. I have plenty of money. Take plenty to the auction."

Unfortunately that other fellow had received ex-

actly similar intructions, so that each week there gathered at the auction several delegates each having been instructed to outbid the others.

Now, just because these men had stopped going to the fisheries and the mine, some things, like coal, were becoming very scarce. The Sailor was able to get a man now and again to work in the Coal Quarry (it was a Quarry rather than a Mine) and produce a few sacks, but as the weather was getting cold they were soon snapped up. And so it happened that two or three delegates from different villages, each with his pockets loaded with money, would come to the auction determined not to go back without the particular commodity in question. But, as each was as determined as the other when the bidding began, and both had plenty of money, prices soon went skyward. This went on for several weeks.

And meanwhile of course, while high prices did not particularly matter to those who were sharing the new notes and had plenty, such high prices were a very great hardship indeed to those who were not members of the "syndicate" that had issued the new notes based on the larger block of gold. There were on the Island quite a number of elderly people living on fixed sums paid weekly through the Parson since the use of money had become general on the Island. Before prices began to soar they got along comfortably enough on these weekly sums; but when prices doubled and trebled they were faced with starvation. And, for the same reason of suddenly rising prices their relatives were

usually unable to help them. Although those who produced things got better prices, all calculations were thrown out. Thus a smacksman had been saving up for a whole year to buy a new set of sails. He sailed over from an outlying island to find that all this reckless bidding had multiplied several times the price he would have to pay for new sails. He was quite unable to get them, and his business was crippled. He could not take advantage of the good prices because his accumulated capital had been rendered almost valueless by the rise of prices.

Meanwhile, as the bidding at the weekly auctions became more and more frantic the Sailor watched and bided his time. One Saturday it suddenly stopped and everyone wondered why. But the Sailor knew, and when the bidding thus stopped, he came into the auction with a bundle of the new notes in his hand, and to those who had come to buy goods for their villages made a little speech about as follows:

> "These new notes are claims upon a block of gold valued at $5,000. They are backed by nothing but that gold. They have now passed entirely into my hands as manager of this Store. I therefore claim that block. It is once more my property. It shall now be buried and hidden in such a way that it will not be discovered, and when those who found it have gone back to work once more and are giving us coal and fish and other things for the coming winter, there will be a chance that prices will return

to what they were before this unfortunate discovery of fresh gold."

The Sailor went on to point out the difference between what he had done and what the discoverers of the big block of gold had done. The Sailor had made "things which made things"—called into being machines like the loom, which made cloth where heretofore there had been no cloth; a steam plough, which made wheat grow on land where heretofore no wheat could be grown. But what goods—things to eat and wear and use—had the discoverers of the new gold added to the Island? Not one thing. On the contrary, since they discovered the gold, they had stopped working in the Coal-mine and in the Fisheries, and were living by exchanging their notes for food produced by others. Soon coal would be needed, and dried fish and all sorts of things. But there was less of these things now because the gold discoverers had stopped working.

The gold had made the Island poorer.[1] If the gold could be sent abroad and foreign goods imported, it would add to the Island's wealth. But there might be no ship for years, and so, while there was more money, there were less goods. These goods had consequently to be dearer.[2]

[1] Chapter I of Part II will furnish ample material for illustration of this point, while the narrator can further drive it home by stories of how increase of money in Germany and Austria and other countries after the war caused the price of a box of matches to go up to the equivalent (on paper) of a million dollars, so that those who had been so unfortunate as to keep their money ultimately found it worth almost nothing.

[2] The nature of the opposite—but equally great— evil of too little money is of course revealed in the first game. If the Sailor had been unable to base any credit at all upon his gold he could never probably have brought a single one

GAME NO. II

General Description

In the second game the object of the Players is not to get currency but goods, which the Banker sells by auction, and the scores are counted by the amount of goods held by each Player at the end of the game.

For the purposes of Game No. II the pack is divided into two packs of five suits each. One pack is made up of Brickfield, Coal-mine, Flour-mill, Harvester, and Iron Foundry, representing goods. The other pack, made up of Loom, Pottery, Trawler, Saw-mill and Wagon Works, represents "Gold Certificates"—the notes issued by the Islanders who discovered the second block of gold.

A small medallion in the middle of each card represents its value, whether in goods or gold, as the case may be. It will be noted that taking the pack in alphabetical order, the amount of goods represented by the cards declines (from two truck-loads of mixed merchandise to a quarter-truck), while the figures on the money cards rise. (It will be recalled that in the second instalment of the Story the Islanders, coming to the weekly auction, were able only to get diminishing quantities of goods, while the increasing competition in bidding against each other compelled them to bring increasing quantities of the new money, of which at first there was plenty.)

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of his enterprises to completion. The "money system" in that case would have proved insufficiently elastic to serve as an efficient tool.

But the rise and decline is not regular. In each suit are two prize cards, worth double the amount of the other cards, whether of goods or money. And it is the existence of these prize cards in each suit, a fact known to the Players, which makes a tolerably good game of the auction, enabling one Player to pit his wits against the others.

The game consists in the auction of the goods cards by the Banker, who holds the goods cards, the money pile having been placed in the middle of the table so that each player can reach it.

It is important to see, before starting the game, that the cards are so arranged that when placed face down, the Brickfield suit comes at the top of the goods pile with the Coal-mine, Flour-mill, Harvester, Iron Foundry, in that order, following, and that the Loom suit is at the top of the money pile in the middle of the table with Pottery, Saw-mill, Trawler, and Wagon Works following in that order, so that "as the goods get less, the money gets more."

In order to ensure this, follow these instructions:

See that the pack of one hundred cards (without the Jokers) is complete by restoring the cards that were withdrawn in the first game.

Sort out the sets in alphabetical order—that is to say, take the Brickfields, see that the ten are complete, shuffle them and place them face up on the table. Take, then, the ten cards of the Coal-mine, shuffle them, and place them face up on the top of the Brickfield. Do the same with the Flour-mill, Harvester, and the Iron Foundry. Then take the pack of five suits, turn it upside down so that the

faces of the cards are not seen. The Brickfield will then be the top suit.

Select the Looms and place the suit of ten cards face up on the table with the Potteries next, the Trawlers next, then the Saw-mill and the Wagon Works. Turn this second pack of fifty cards over face down; place them in the middle of the table in such a way that the Loom will then be the top suit of the pack.

The Players all take a card each from the money pack in the middle of the table.

The Banker then takes the top card in his pack, which is a Brickfield, and says: "I have one truck of mixed merchandise for sale. What offers?" It is possible that two players may tie in their offers. If there is a tie in the bidding it goes to the Player next to the Banker's left; and the next time there is a tie the right of taking it will go to the next player in the same direction, and so on. The Banker then takes the next card from his goods pile and offers it for sale, and it is bid for by the remaining Players and goes to the highest bidder. So with the third card.

When all the Players but one have bought, so that only one has now a money card, the remaining Players, including the "odd man out" with the remaining card, all take one more card from the money pile. This may give the odd man out an advantage at the next bidding, but not necessarily, as the money cards are increasing in amount the whole time, and as it may be worth while for the odd man to hold out for one of the prize cards, which he

knows is in every suit and which his larger cash holding may enable him to secure.

The auction goes on in this way until all the money cards in the middle of the table are exhausted, which they will be somewhat before all the goods cards are sold.

The amount of goods held by each Player constitutes his score.

In order that the Players shall know when "prize" cards are likely to come in, and get some guide in bidding, the table shown on page 110 should be copied out and placed at the disposal of players.

GAME NO. III

Game No. III relates to a period of the Island history which precedes the discovery of the second block of gold, to the time when the Sailor is still struggling with the building up of his early enterprises. It illustrates another, and more ingenious, device adopted by the Sailor-Banker for making the best use of his gold. And that device, in its turn, illustrates the mutual indebtedness which is the basis of modern banking, and something of the nature of credit, interest, and profit.

Having discovered that he himself is at a disadvantage in purchasing the various things which he needs to complete his enterprises, the Sailor decides to commission certain of the Islanders to buy the necessary pieces and then to bring them to him when the set is complete, paying the contract price for it.

He says, in effect, to certain Islanders: "I will

lend you an agreed amount of notes on the security of the machinery you already hold. With this money, and by selling the pieces you do not want, try and buy the pieces necessary for, say, a Sawmill. When you have them complete, I will give you the agreed amount, $1,000 according to contract, and the completed concern shall be considered in the Assets of the Bank as worth what it paid you for it."

Note that for the purpose of buying these sets the Sailor *lends* the Islanders his notes.

Now those notes are themselves, of course, a promise to pay gold. But the Islanders, by accepting them as a loan, put themselves in debt to the Banker to exactly the same amount that he is in debt to them. This mutual indebtedness is, perhaps, the most characteristic fact of banking.

It is true that once the set is complete and sold to the Sailor, the debt is wiped out and the Islander holds currency free of any debt. But the set so completed becomes security or cover for the additional currency—the Bank-notes held by the Islander.

It is important to be clear as to the nature of this operation.

The Sailor, for the purpose of buying the machinery, lends the Islander, say, $600. The Player, as standing for the Islander, might say: "Now, Mr. Banker, I have you. These notes are a demand to pay gold or show Assets. You have, so far, no Assets and only $500 gold. You are broken."

The Banker replies: "Kindly pay your debt to

GAME NO. II

TABLE OF PRIZE CARDS

List of Goods Cards

SUIT	ORDINARY CARDS	PRIZE CARDS
The Brickfield suit is made up of	One-truck cards, but has two prize cards of	Two trucks each
The Coal-mine suit is made up of	One-truck cards, but has two prize cards of	Two trucks each
The Flour-mill suit is made up of	Half-truck cards, but has two prize cards of	One truck each
The Harvester suit is made up of	Half-truck cards, but has two prize cards of	One truck each
The Iron Foundry suit is made up of	Quarter-truck cards, but has two prize cards of	Half-truck each

List of Money Cards

The Loom suit is made up of	$30	$30	$30	$30	$40	$40	$40	$40	$50	$50
The Pottery suit is made up of	$50	$ 50	$60	$60	$60	$60	$70	$70	$70	$80
The Saw-mill suit is made up of	$80	$80	$80	$90	$90	$100	$100	$110	$110	$120
The Trawler suit is made up of	$120	$120	$120	$130	$130	$130	$140	$140	$140	$150
The Wagon Works suit is made up of	$150	$150	$150	$160	$170	$180	$190	$190	$200	$200

the Bank and you have nothing wherewith to make a claim upon its gold. In other words, I have an asset you have overlooked: your obligation to pay the Bank $600 in its notes, or bring a completed set of machinery. You have a claim on the Bank for $600. The Bank has a claim on you for precisely the same amount: Pay your debt and the Bank is solvent."

And the Bank is still solvent if the Islander, instead of repaying his loan of $600, comes to the Sailor and says: "Here is the machinery for your Saw-mill complete. Wipe out my debt and give me $400 in order to make up the $1,000 promised." It is true that the indebtedness of the Bank is expanded by $1,000, but so are its Assets.

The Banker might go on to remind the Player that each Player stands not for one Islander but a section of the Island population, and that the loans are so arranged that the Bank can count upon an inflow of money from maturing loans sufficient to meet the demands upon it created by fresh credit to clients. Keeping the terms of the illustration in mind, it is true for the Banker to say to a number of Islanders: "If you pay the Bank, the Bank can pay you."[1]

[1] Rufener, in his *Principles of Economics*, says:

"One peculiar thing about loans by bankers is that they are not, like other loans, the result of saving. It is not necessary for a banker to reduce his spending to increase his lending. It is only when a bank lends in cash that its loans are like other loans. When it lends by means of granting deposits or by printing its own notes, it is lending, not cash, but promises to pay cash, and it is safe for banks to make loans many times greater than the cash they have on hand. Beginning with $100,000 in cash, a bank can make loans in the form of deposits to ten times that amount, or more. Now it is obvious that the

Now it is obvious that if the Sailor could always count upon the loans which he made to the Islanders invariably resulting in completed sets or else upon the Islanders returning the notes; if the concerns were always worth the money which the Sailor issued in order to pay for them, then his Bank would never be broken.

But it is also obvious that sometimes the loans made to the Islanders will be badly used; that Islanders will sometimes buy the wrong bits of machinery, fail to complete the sets, and in the end have nothing of value which could be entered in the Bank as an Asset to show for the money—the notes—lent them by the Sailor, and he would soon find the Bank insolvent.

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bank may lend more buying power than it gives up itself, and more money than the bankers have saved."

Professor Lehfeldt (*Money*, pp. 41–46) says:

"When a bank makes a loan to a customer, by giving him the right to draw cheques, deposits are increased; for no one borrows unless he wants to use the money, so that most of the amount of the loan is soon paid away to other persons, who deposit the cheques to their own accounts. Thus LOANS MAKE DEPOSITS, according to the usual phrase. When a bank discounts a bill it is making a loan, in a very similar manner—the customer's balance is credited with the amount, and the total of deposits increased. . . .

"It appears, then, that, for the greater part, deposits have come into existence by banks making loans: have been created by the banks themselves.

"But not created out of nothing. Banks lend on security: rarely on personal credit. The customer hypothecates some title to real wealth—shares in a company, title-deeds to land, and the like. What the bank does, by means of its credit, is to turn some of this wealth into means of payment—*into money*. The customer provides the real value, the bank provides the liquidity, the acceptability that makes it serve as money. The nature of credit-money becomes clear by following out this process. . . .

"It follows, however, from the nature of credit-money, whether in the form of notes or deposits, that it is very hard to say how much can be issued without passing reasonable bounds."

For a fuller discussion of the nature of credit, see Part II.

"How," asked the Sailor of himself, "shall I provide against the contingency of a certain proportion of failures on the part of those to whom I made loans?"

He decided to charge for the loans which he made, to say to the Islanders, "I will lend you an agreed amount, say $500, for buying a set. When you have it complete I will give you the contract price of $1,000 for it, less the amount of the loan and less a charge for the use of the money, interest; and less a charge to indemnify me for the losses which I shall make in the case of those who will neither return me the money nor produce me the goods.

"Thus, if I charge you 5 per cent. for the use of the loan, and 20 per cent. of the total final price to cover the risk of loss, that will make $225 to come off the total I shall pay you, so that if I give you $275 and cancel your debt to the bank, when you produce the completed set, we shall be square."

Now whether this 20 per cent. is sufficient or an overcharge depends mainly, in the particular circumstances of the Island, on the proportion of failures to successes in the attempts of the Islanders, with the borrowed money, to buy completed sets (disregarding for the moment the question whether incomplete sets are worth anything).

Players familiar with Game No. I can work out these figures for themselves, and it is illuminating to demonstrate the results obtained by varying figures, and by enlarging and restricting credit.

DESCRIPTION OF GAME NO. III

A certain proportion of the suits are rendered incomplete as in Game No. I. There should be more Players than complete suits: a suitable proportion is to have twice as many Players as there are complete suits.

No Jokers are used.

The cards are dealt as in the first game, the Banker receiving none.

As already explained, the amount of credit to be extended to Players and charges to be made can be varied as the participants may agree. But each Player should receive the same amount of credit, irrespective of his hand.

Assume, for the sake of illustration, that there are six Players; that seven suits have been rendered incomplete, so that there are only three complete ones in the pack, and that each Player has been granted $500 credit. This means that the Bank's initial indebtedness is $3,000 and that its security for the loans is the potential value of the machinery (cards) which the Players hope to make into complete suits. When it has the three complete suits it will have $3,500 Assets (three enterprises valued, as per original contract, at $1,000 each, plus the $500 gold), but without counting the value of the incomplete suits which were pledged to the Bank as security for the loans in the first instance. But in order to acquire the Assets it will, in addition to the loans already made, have to pay $1,500 (less the amount of its Banking Charges) to the three

clients concerned, which means that the Bank's total liabilities would be $4,500 with total Assets $3,500. The Bank has thus $1,000 to recover from the three successful Players. If the Bank makes a charge of 5 per cent. interest on the loans and 35 per cent. charges or profit on the gross price of each of the three suits, it will make a total profit of $125 on the whole operation ($75 interest and $50 profit) if no account is taken of incomplete suits.

If the game is played on this basis it consists in the Players buying and selling as between themselves (the Banker assuming a passive rôle), and the winners will be those who get the complete suits, in the order of the amount of currency which they hold. In order to score at all at the end of the game *a Player must hold a complete suit. Currency held by Players who do not hold a complete suit does not count.* It will happen, of course, that at the end of the game much of the currency will be in the hands of those who only hold incomplete suits. Such money does not count. The assumption is that having been spent on unproductive enterprises, it has gone in daily cost of living, etc.

The rules, for the most part, are embodied in the above description and method of play. It will suffice to add these two: (1) If two Players cannot agree on a price so that the completion of suits is held up, the Banker can declare the game finished and decide that the scores shall be the currency then held by each Player with a completed suit. (2) Players holding nine cards of a suit shall have the right to ask the Banker whether they belong to a com-

plete suit or not (the Banker having the right to know which are incomplete).

In this game there is, as explained, no breaking of the Bank by the Players as in Game No. I. The Players can compete with each other in their scores, and the Banker can be brought into the game as an active participant on a basis of equality with the others if loans, charges, and allowances for incomplete suits upon which the Bank has a claim are so made as to give the Bank a profit which shall correspond on an average to the scores made by the Players. It will be found advisable at first, however, to regard the Banker more as a director and spectator, and to introduce him as a competitor with the Players only when everyone has become perfectly familiar with the details.

When that is the case it will be realized that there are infinite possibilities of variation, as, for instance, with the following factors:

(*a*) The ratio of complete to incomplete suits; (*b*) the credit which shall be extended to Players; (*c*) the interest and "risk and profit" charge to be made; and (*d*) the allowance, if any, to be made by the Bank for incomplete suits left in the hands of Players when all the completed suits have been sold to the Bank.

It is well, in using the games for purposes of illustration with students—always assuming that they are now familiar with the first game, for this game will be useless unless they are—to allow them to suggest the figures involved. If they are really familiar with Game No. I they are likely very

quickly to realize how the above factors interact. It is illuminating to demonstrate the results obtained by varying the proportion of complete to incomplete suits, and the charges for "risk and profit," and also by enlarging and restricting credit, and then note the varying results of these factors on (*a*) the solvency and profits of the Bank; (*b*) the profits and proportion of failures among the Players; and (*c*) the prices given for cards during the course of the play.

PART II

MAINLY ECONOMICS

CHAPTER I

WHAT THE GAMES TEACH

These games teach the nature of money, so making easier the understanding of economic problems and preventing confusions which are very widespread and very dangerous—The Sovereign Fallacy—On "Over-Simplification"—The Money Controversy—Its Bearing on Industrial Depression—Gold and Monetary Reform—Civilization and Stable Money.

The Bank, as kept by the Sailor, does not, of course, in the details of its daily working, resemble a bank in London or New York (the circumstances of the Island are somewhat different), but the principles which he applies and which the games illustrate are those which underlie the operation of all banks and govern money everywhere. In order to render the principles clear and to avoid unnecessary complications, the different forms of money—notes, cheques, credit money, representative money, fiduciary money—are, for the purposes of the Island Bank, merged into one form. Moreover, the Sailor is not only a banker, he is an entrepreneur, and the rules governing his conduct are a compromise between those appropriate respectively to the two persons. But these things touch details of practice, not essential principles. The man who knows how one kind of automobile works can grasp the working of another kind much more quickly than either could be taught

to someone altogether ignorant of automobiles of any kind. Indeed, differences of detail between the practice of the Island Bank and banks in real life may serve a useful purpose if they provoke questions and discussion. Departures from everyday practice can be made a means of bringing home the nature of the principle.

When Watt had grasped what made the kettle lid jump up and down, he got hold of a principle which enabled him to make steam-engines. But he did not make his engines like tea-kettles. It was the understanding of the principle which was the all-important thing, and it was easier for him to grasp that principle by seeing it at work in an extremely simple form, like the lifting of a kettle lid, than it would have been if some magician could have shown him a modern locomotive rushing by at sixty miles an hour. In the same way, children would probably learn very little of the nature of money by spending a half-holiday in some great Metropolitan bank; but they may learn many of the fundamental principles by playing this game.

It is quite unimportant that the details do not in every respect correspond to the transactions of everyday business. A clear theory of how a thing works, which is incorrect in some detail, is a far better preparation for understanding the mechanism than no theory at all. "Truth," as Francis Bacon said, "comes more easily out of error than out of confusion." Indeed, as physicist and philosopher alike are aware, there can be no understanding at all save by a series of "working hypotheses" which

can never correspond exactly to the facts, and must always represent in some measure an over-simplification.

The service and object of these games is not, of course, to furnish any large body of positive knowledge, but so to clarify the mind about certain basic mechanisms as afterwards to make the acquisition of positive knowledge much easier than it would have been without that clarification. They help even young children to avoid confusions and fallacies like those associated with the grosser forms of Mercantilism, which, once they take possession of the mind, make real understanding of these subjects for ever after impossible; confusions which for centuries have stood, and still stand, in the way of clear thinking. The games do not, of course, cover the whole discussion of the Gold Standard, (although they do enable a student to see quite deeply into its fundamental issue) but unless certain facts here brought out are understood, it is impossible to follow any discussion about the Gold Standard intelligently.[1]

Will the reader please note carefully the terms of the foregoing statement? It is not so much the knowledge which they impart as the confusions which they prevent in which the service of these games consists. They do furnish a means of detecting ignorance and fallacy, and that is as useful betimes as positive knowledge. The question whether

[1] Mr. Walter Lippmann, the author and journalist, writes: "I have no doubt that anyone who has played this game a few times would read a textbook on banking with a totally fresh understanding."

the elucidation of principles should properly be described as a "smattering"; whether, in fact, it is possible to understand anything whatsoever without calling upon such "smatterings," and how far the simplification is admissible or indispensable, is dealt with at greater length a little later on. Keeping the above facts in mind, it can, on the conclusion of the first game, be pointed out that:

(1) The amount of money circulating on the table—Island—has by the Sailor's device been miraculously expanded from the original $500 to something nearer to $5,000.

(2) It is not worthless money, for it stands for actual goods. When the holder of a note hands it on he is handing over an interest in a valuable property—mill, coal-mine, what not, as one might settle a thousand dollar debt by transferring a thousand dollar mortgage on a ten thousand dollar house. (Recall, if necessary, that the difference between the total of notes in circulation and the Assets as represented by the value of the complete suits, is presumed to be much more than covered by the value of the incomplete suits.)

(3) But the notes are not merely a claim upon property, nor dependent entirely upon its saleability. The arrangement with the Banker is that unless and until the property is productive he must be in a position to pay in gold, and the Bank is run on that assumption. The property which a given note represents must be equal in value to the gold for which the note may be exchanged. If the properties were not working (not producing wealth, that is) they could not stand as the equivalent of

cash, (to meet "on demand" obligations that is) though incomplete suits could be regarded as deferred Assets, and so available as cover for that proportion of the notes which could be counted upon to remain unpresented.[1]

(4) The expansion of money is only permitted therefore, by the expansion of saleable goods, and in the absence of this latter condition, the manufactured money quickly becomes worthless.

(5) The Island could never have become rich merely by making money. Indeed, as shown in the Second Game (illustrating the Second Instalment of the Story) the discovery of the larger block of gold actually made the Island poorer. It was the making of the goods which made the Island rich, and, as the goods increased, the money, under the Sailor's device, almost made itself.

[1] In his "Principles of Economics" (p. 530) Rufener writes:

"Bank-notes are in some respects like bank deposits, but in some important respects unlike them. Both notes and deposits represent the bank's promise to pay on demand. But the bank-note is made payable to the bearer, and is properly considered a form of paper-money and passes from hand to hand as does other money, so long as people in general have confidence in the banking system or in the particular bank that issued it."

Rufener also indicates that: the ratio of a bank's cash reserves to its total liabilities in deposits may fall as low as five per cent.

It is well to recall with reference to the theoretical convertibility of the Sailor's notes, that the amount of credit which can be built on a given amount of gold varies enormously with circumstances and the habits of a community. In America of recent years one dollar gold has permitted the creation of ten credit dollars, and this proportion is often exceeded.

Mr. E. A. Goldenweiser, Director of Research, Federal Reserve Board writes (Journal of the American Bankers Association, January 1929):

"In the United States, against $100 of deposits there is, on the average $7.50 of reserves with the reserve Bank and against this amount the reserve bank must hold $2.50 as reserves. This $2.50 under the gold exchange standard would support not only $100 of deposits in this country but perhaps two and one half times as much currency or deposits in some other country. One could even go further . . . the $2.50 in the Federal Reserve bank might be the basis of several hundreds of deposits in non-member banks.

(6) But while it is true that the Island could never have become rich merely by making money or "expanding credit," it would never have become rich by means of the Sailor's enterprises as it did unless he had been able to "manufacture" money and employ credit. Had he been limited strictly to the use of his $500 worth of coins and not able to issue notes in excess thereof in the way agreed upon with the Islanders, his enterprises could never have come into being, as his money would have proved too inelastic to permit the assembling of the necessary elements.

(7) Although the circumstances of the discovery of the second block of gold showed that gold of itself is not wealth and that its plenty in certain circumstances may decrease wealth, the original block, nevertheless, played a very important rôle and alone made possible the creation of the new wealth which followed the success of the Sailor's enterprises. Without the gold it is doubtful whether any eloquence of the Sailor would have induced the Islanders to part with their bits of machinery. Its presence in the background gave the Islanders confidence enough to induce them to part with their property and let the Sailor make his experiment. It filled the gap, as it were, between the surrendering of the scattered machinery and its conversion into wealth-producing instruments. The margin of risk was covered by something which the Islanders knew would remain, however much the Sailor's plans might go astray. Without that tangible thing the Islanders would have been deaf to the Sailor's eloquence. And they realized, later, that to the degree the properties failed or went astray he would

have to fall back on the gold, which was thus the ultimate security of the Sailor's currency.

(8) Furthermore, the gold furnished the first measure of value, and a standard for future payment, without which the Sailor could never have arranged satisfactorily with the Islanders for the purchase of their bits of machinery. It alone made possible the pricing of the pieces. It will be recalled that the Islanders found it impossible to establish any "price" at all so long as they talked about how many future sacks of flour should be given for a given piece of machinery now. If the Islanders had had to estimate how many sacks of flour or bales of cloth which the Sailor hoped to make should be given for a particular bit of machinery, they would have been confronted with an impossible problem in calculation. But the suggestion of the Islander who proposed that the number of coins from the block be divided by the number of pieces of machinery, gave immediately a practical basis of calculation and pricing. It furnished a yardstick by which all other things could be measured and priced.

(9) The arrangement moreover, brings home the relation of gold to prices. It will be recalled that it was to make all the difference in the basic prices whether the Sailor had in fact $500 or $5000. If the Sailor had started operations on the basis of the larger block, prices would have been multiplied by ten—a fact which would have made no difference at all so long as the Islanders were buying and selling among themselves, but a great deal of difference if and when they began trading with other countries. (What difference it is not hard for players

to work out or teachers explain, once familiar with the three games.)[1]

(10) The Sailor's reply to the Islander who wanted to know how he could "take his bit of the mill to Europe" indicates how foreign payments are made without the shipment of gold, and reveals the nature of Bills of Exchange.

(11) The relation between the quantity of gold available and the original pricing of the bits of machinery gives a first simplified notion of the Quantity Theory of Money which is elaborated and driven home by Game No. II. (based on a development of the Story in which the larger block is discovered by some Islanders). The working out of Game No. II shows very clearly and unmistakably how a great increase in the quantity of money without corresponding increase in the quantity of goods, must send up prices. It makes plain that part of the Quantity Theory which is beyond question.

(12) Thus the two games together make clear why too much money make things dear and taxes the man of fixed income and the creditor; how the insurance policy holder who has scraped for half a

[1] Although the games do not deal directly with foreign exchanges, once the processes that they do cover are thoroughly grasped, the mechanism of foreign exchange becomes much easier of understanding. Thus, by starting with the smaller instead of the larger block the Sailor made things on the Island very low priced in terms of gold. (The Second Game, based on the rediscovery of the larger block shows exactly why.) The effect of this when once the Island established contact with the outside world, would be to stimulate exports: the foreigner would be able to get a large quantity of Island goods for a small quantity of gold. This would bring gold into the Island, which would have the same effect (though more slowly and less disastrously) *pro tanto* as the discovery of the larger block—effects which the Second Game makes unmistakable; prices would rise until an equilibrium were established. Perhaps, it can be suggested, this was why the Sailor insisted on burying the larger block. The effect of so doing would be, later on, to stimulate foreign trade.

lifetime to provide for his old age may find himself robbed of half his savings (or all, as in the case of Germany and Austria, during the inflation) by an unwise "more money" policy; and how, on the other hand, too little money causes the producer to get less and less for his labor or his produce so that the payment of debts or fixed charges becomes increasingly burdensome.

(13) The two, that is, together, reveal the need for stable money, show that if money fluctuates violently in value our modern industrial civilization becomes impossible; no contract running over any length of time (as those involved, for instance, in the building of ships or skyscrapers must) could be made. A contractor, having undertaken to construct a building for a million dollars might find by the time he had finished it that the million dollars would not even pay for the paint.[1]

(14) The Third Game illustrates the nature of that mutual indebtedness which is at the base of banking mechanism, gives some notion of the nature of credit, and a bank's function in rendering it available; shows how a bank can lend many times the amount of its entire capital and still be completely solvent.

(15) The Third Game shows also something of the nature of interest and profit, particularly how unsound speculation or unsuccessful investments

[1] Things much more grotesque than that were actually happening during inflation in Germany. Prices rose so rapidly that shops had to change the price lists hourly; wages were revised twice weekly; farmers paid off mortgages on large farms with a pair of ducks; the whole proceeds of an insurance policy it had taken forty years to mature were expended in a single glass of beer, and so on. The process meant for millions utter ruin and penury, especially of course for the elderly, those living on pensions which had taken a lifetime to ensure.

cause the price of money, interest, to rise and may thus make sound enterprise more costly and be a charge upon the whole producing community.

(16) The system of pricing the bits of machinery suggested by the Sailor and carried into effect is a sort of inverted Law of Marginal Utility, as the economists call it. But the inversion is more apparent than real, and the reasons given by the Sailor for this method can be made to bring home certain fundamental principles of value.

(17) The whole story illustrates the fact that wealth does not consist in the mere existence of natural resources, but in their proper combination by human intelligence. The bits of machinery had been on the Island for years and years, just worthless old iron. The intelligence of the Sailor made those bits of iron a means of feeding, clothing, housing, and warming the population. The whole secret was combination in the right way, co-ordination, which the Sailor managed to secure largely through the confidence which the existence of gold in the background gave.

(18) The truth indicated in the foregoing paragraph—that poverty may be transformed into wealth by a different use of the same materials (a few hundred thousand Indians nearly starved where today a hundred million Americans live in plenty) applies to the device of money itself. A less ingenious man than the Sailor might merely have traded his block of gold for some food and shelter, and then the Islanders would have fought over it, as their pirate forebears would have fought, and in the end the Island been as poor as ever. But the Sailor turned the gold into an economic tool. The meaning of

this should be kept in mind when we emphasize the indubitable truth that gold is not wealth and that you don't add to wealth merely by getting more gold (as the Second instalment of the Story and its accompanying Second Game shows). Nevertheless men's desire for gold, their worship of it, can be turned into a tool aiding human organization. You cannot eat gold, it will not clothe you, nor keep you warm, it is true. But neither could you eat a plough, and to a stone-age man it would be of little use. But a plough can be used to produce things you can eat, and can wear.

(19) Finally, story and game show that all the foregoing results would have been exactly the same even if the two blocks had not been of gold at all, but merely painted stones, so long as the Islanders believed them to be gold. Note that in the story the gold never is sent to be coined. The terms of the Sailor's contract with the Islanders put so much emphasis on goods—"were the enterprises working?"—that the question of the gold slipped after a time into the background, and the Islanders got so accustomed to the Sailor's currency and so much into the habit of thinking of the prosperity of the enterprises as the test of the Bank's solvency and the real cover of the currency, that it never occurred to them to have the blocks turned into coins or to test their exact value. For all they ever knew to the contrary the economic revolution which the coming of the Sailor ushered into the Island might have been founded on a vast bluff.

The above may strike the reader as a somewhat formidable array of lessons to be digested. But the fact is that most of them will emerge from the mere

playing of the games without any verbal explanation at all. If the story is treated as an integral part of the games no elaborate explaining will be called for. Not the least of the advantages of linking the games to a story is that it enables the players easily to relate the games to the world in which they live. It is easy to see the relation between the games and the imaginary (and over-simplified) community of the Island; having got that far it is easy to relate the Island community to the real world about us. The Island serves as a stepping-stone between the game and the complicated world in which we live.

It is important that a player, showing this game to novices, should *not* attempt to cover too many of the above points at first. The result would be confusion. At a first demonstration the points which it suffices to call attention to are:

(1) The miraculous "growth" of money as revealed by the game—the expansion of the original $500 into more nearly $5000.

(2) The fact that it is good money, because it stands for real wealth, is merely a token of actual goods set aside for the purpose of making exchanges, like passing on a sack of flour.

(3) The fact that the rôle of the gold, although so small a proportion of the Island's money, is an extremely important one, since if the Sailor had not had it in the first instance his whole enterprise would have been impossible.

(4) The fashion in which also it furnished a necessary measure of value.

(5) The way in which the second game reveals the essense of the Quantity Theory, showing how an increase in the amount of money with no corresponding increase in the amount of goods must raise prices.

(6) The fact that the gold might have been stones so long as the Islanders did not know it, and had the necessary faith that it was gold.

It will also, during the course of the game, be necessary to point out that, assuming the Bank's Notes to stand for its liabilities, it would be insolvent long before it is broken, under the rules, but for the fact that the incomplete suits have a value, though an undetermined one. The complete suits stand as cash assets, short bills, the incomplete as deferred assets, long term credits.

Perhaps it should be pointed out here what the games do *not* reveal in the mechanism of money.

That lack is mainly in respect of two points: the velocity of circulation as an element in the Quantity Theory; and the effects respectively of raising and lowering the re-discount rates, bank rate.

The first of these—velocity of circulation—is shown in a fourth game upon which the present writer is at work; and the second the effect of the re-discount rate, can be deduced from the working out of Game No. III but not very adequately, and the improvement of this point too is now being studied by this writer.

It will probably be agreed, however, that the ground already covered is very considerable. Two main questions have been kept in mind in selecting the points to be explained by the game: What clarifications will best enable the ordinary man to avoid those fallacies to which he has been most subject in the past? And, what understandings in economics are most needed for the understanding of other social subjects, of the mechanism, not merely of money, but of society itself?

It will be noticed that these games deal mainly, though not entirely, with the money side of economics. A certain fundamental confusion about money and its relation to wealth—prosperity—is at the root of most of the economic fallacies which are translated into public policy, and is the biggest obstacle in the mind of the layman to clear thought about the economic questions which he is so often called to answer. Those particular fallacies are not only the commonest but the most practically mischievous; those which are most concerned with the actual political decisions that the average voter has to make.

The subject of money is, of course, in its higher reaches extremely difficult, extremely controversial. But so, for that matter, are mathematics and physics; beyond full comprehension by ordinary folk. Yet that does not prevent us from obtaining some useful guide in life by the knowledge that two and two make four, and that the man who invests his capital in a machine to drive liners across the

Atlantic by perpetual motion, without any consumption of fuel, will probably lose his money.

There are truths just as fundamental to be learned about money and its mechanism, truths which can be learned without entering into the controversies in any large degree, and which are unaffected by them; a knowledge of which is indispensable if we are to avoid common and disastrous errors of public policy and which are indispensable if we are to have even a glimmering of what the controversies are about.

It is those truths which these games may teach.

The Sovereign Fallacy

An economist has written:

> "Money is the pivot of everything in economics. We cannot move a single step towards the elucidation of its problems without first studying the nature and operations of the standard substance."[1]

And in connection with that "standard substance" there is one sovereign fallacy which for ages has bemused men's minds and bedevilled public policy to the point, again and again, of wrecking civilization. It has led, directly and indirectly, to innumerable economic errors and confusions, to un-

[1] *The Evolution of Modern Money,* William Warrand Carlile, New York, 1901, p. 325.

John Stuart Mill declared that money "obscures, to an unpractised apprehension, the true character of industrial enterprise."

Sir Basil Blackett, of the British Treasury, is reported as saying that "thinking in terms of money is the root of most of our evils. . . ."

necessary conflicts, to futile wars, sometimes to unutterable chaos.

And that is the fallacy which arises from confusing the money which counts the wealth with the wealth itself: the Mercantilist illusion,[1] the belief that a country or a community which has much money has much wealth; that if it gets gold and keeps it the country must be richer; that what, indeed, we want of the foreigner is his money, not his goods; that when a nation adds to its stock of foreign goods it is somehow making itself poorer; that waste, since it causes money to be spent, promotes prosperity; that the use of labor-saving machinery must, since it tends to restrict the amount spent in wages, be bad for the worker. The fallacies which are directly or indirectly related to the money confusion are endless.

Let us get some idea of the nature of the central misunderstanding, a misunderstanding which economists usually deal with inadequately because, pre-

[1] "The Mercantile System: A term used by Adam Smith and later political economists for the system of economic doctrines and legislative policy based on the principle that money alone constitutes wealth" (*New English Dictionary*).

". . . It is not at all easy to rid the mind of the idea that an increase of money is necessarily an increase of national wealth. If a man has ten dollars in his pocket, and his Government has not been playing fast and loose with its currency, he rests secure in the thought that those dollars mean for him a fairly definite quantity of potatoes, shoes, or tobacco, which is certainly real wealth to him. Except as noted, however, money is not wealth, and it is not even converted into wealth when it is spent for goods. It is merely used as a measure of command over wealth and a means of exchanging wealth; and the one who receives it uses it in the same way as a measure of his command over other people's wealth. Various popular fallacies—those, for example, having to do with over-production and with the favorable balance of trade—are due, as we shall endeavor to show later on, to the confusion of money and wealth" (Foster and Catchings, *Money*, p. 21).

sumably, they find it difficult to believe that anyone could think "such nonsense." The expert or specialist is very apt to lose any vivid sense of the beginner's difficulties.

A man sees that if he has plenty of money he can buy all that he needs. He argues, therefore: If everybody had plenty of money, everybody could buy plenty of goods, and everybody would be rich. If you say to such a man: "The object of foreign trade is to increase the amount of goods which the foreigner sends us; and if, as the result of that trade, we do not ultimately get more foreign goods we get nothing," he will tell you, "as a Practical Man," that you are talking arrant rubbish; that we want to get the foreigner's money and keep out his goods. Yet what the Practical Man terms rubbish is a quite self-evident truth: if the country (note that I say the country, not the individual) does not get foreign goods (including therein services) as the result of foreign trade, it gets nothing. Even if we could go on getting the foreigner's money in the form of gold (which, of course, we could not) and arrange, as the old Mercantilists through ferocious penal laws against the export of gold tried to arrange, that the gold should never leave the country, the only result would be an increase in prices. Obviously the wheat would not grow any quicker nor the cows give more milk; everybody would pay more money and get more for the same quantity of goods, and we should all be where we were before.[1]

[1] A few weeks before these lines were written, in a conversation with an American business man connected with the promotion of these games, I made

When certain Members of the House of Commons demanded of Mr. Lloyd George that he make Germany pay the cost of the war and at the same time forbid her to export goods, they were asking something which a savage, with a mind unconfused by the money device, would see immediately was impossible. He would see that the two demands were mutually exclusive. If no real wealth enters our boundaries from abroad, then the foreigner has not added to our wealth at all.[1] The thing is mere tautology, truism. The foreigner's money? But his money is of no value except in his own country. We must send it back there—but must get no goods in return! Gold? But all the gold in Germany would not pay the hundredth part of what was being asked. (As touching Europe's debt to America, America has so much gold now that much of it is dead metal in the vaults.) The fact that something which would be self-evident to the savage

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the remark: "I suppose the average business man still thinks that if by some device you could double the amount of money in the country, everybody would be twice as rich." And he, head of a very large business, said: "But wouldn't they?" Wondering how far this went, I did not reply, but said: "Your question reminds me of one which I sometimes put to children when I am teaching them this game. I say, 'Suppose we were to discover in America a solid mountain of gold, and Congress, with a view to keeping all this wealth to ourselves, were to pass a law that none of it should go abroad, would, I ask, the country as a whole be richer or poorer?' And of course they reply that it would be much richer." My business man thereupon said: "But do you really mean to say that if we discovered a mountain of gold in America we should not be very much richer?" To which I retorted: "Would the hens lay more eggs?" To which he replied: "No, but we could buy more of the eggs with the gold."

At that I left it.

[1] I have heard a Dominion Cabinet Minister say: "We have at last managed to secure an assured and steady market for our wheat. The next thing is to see that it is not paid for in goods."

who knew nothing of money cannot be grasped by the ordinary educated man whose mind is bemused by the money device, is a measure of the confusions engendered thereby.

The history of the Reparations controversy in Europe and that of the European Debts controversy in America are outstanding examples. After the war the public of the Allied countries kept on saying to Germany: "You shall pay vast indemnities and you shall not increase your foreign trade. We want your money, not your goods," much as sections of the American public now say to the Allies that the latter must pay their debts while the Tariff is to be adjusted with a view to preventing any increase of American imports from Europe.[1]

[1] One hunts in one's mind for just the type of illustration which will bring home the obvious and self-evident to someone who cannot see it—cannot see that it is impossible by merely printing bits of paper or coining bits of money to cause butter and bacon miraculously to spring from the earth. Here is one that may help.

During the siege of Paris, in the war of 1870, the population of that capital were put to very severe straits owing to the lack of wealth in its most elementary forms, of food, clothing, fuel; children starved, invalids and the aged died like flies for lack of milk and from the cold. The authorities seized available supplies and rationed them. Suppose those authorities had discovered a vast treasure of ancient gold in the catacombs, and had distributed it among the population. It is quite plain that there would have been very much more money, but not one ounce more food in the city of Paris. There would have been the same lack of milk for the children, of warmth, of clothing. These things would not suddenly spring from the earth, would not miraculously increase in quantity because that starving population had laid its hands upon gold coins. Now that is obvious. It need not be argued. Paris would only get more goods within the walls as the result of its discovery of the ancient treasure on condition that it parted with it and exchanged it. The gold would only mean wealth when it left the city. If no food and clothing and fuel and the things necessary for life came within the walls, those things would *not* come within the walls.

Would it be any less true if the walls of a city of two millions were expanded into the frontiers of a country of twenty or forty millions? Gold and money

If this fallacy were responsible only for the maintenance of the network of barriers which so hamper the economic development of Europe, it would be worth every effort to destroy it. But the underlying confusions, the tendency to think about economic problems in terms of money, not goods, real values, lies at the root of nearly all those economic fallacies which express themselves in public policy.

And always at the root of the confusion is there, not so much lack of knowledge as failure to use the knowledge which is a common possession.

The building of new cruisers is defended by certain members of the House of Commons on the ground that, though not needed for naval purposes, "the construction will relieve unemployment." Again, if there is an error here it is not because the relevant facts are unknown. The Members are

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kept within the frontiers and forbidden to go beyond would no more add to the wealth within these lines than would the suppositious treasure of the starving city if the Parisians had decided to let none of it go outside the walls.

The world is only a larger city, larger island, or larger country, and the same principle would hold if the alchemists' dream of making gold plentifully and cheaply were achieved.

This present writer happened to be a Parliamentary candidate at a time when the question of higher prices and the immediate return of the Gold Standard happened to enter the political discussion. If a working-man's wife put him the question, "Do you seriously suggest that you intend deliberately to maintain the outrageous price of bacon, butter, eggs, or potatoes, and that high prices are good for the worker?" he knew that he was losing a vote every time that he tried to show that falling prices added to the real weight of the vast public debt, enabling the post-war bond-holder to exact a larger tribute from the working-class tax-payer. And the inability to follow his argument was not limited to working-men's wives.

As these lines are being written a Currency Bill is under discussion, and one has only to read the Parliamentary debates or to listen to discussions in the train to realize how comically ill-equipped the public is to vote on measures of this kind.

aware that the money which created the employment on the Tyne has to come from tax-payers on, say, the Thames, where its expenditure by the taxpayer on consumable goods would have created equivalent employment and where such employment is in consequence diminished.

The error (assuming there is one) is not due to any lack of knowledge of the facts. It is due to a failure to see the right relationship of facts equally accessible to all of us.[1]

So with the Trade Unionist who is certain that the use of good tools designed to add to the effectiveness of human labour, machines, that is, must be bad for the worker.[2] If error there be, it is not due to the absence of relevant fact: it is due to erroneous conclusions drawn from facts almost as accessible to the uneducated layman as to the university graduate. That layman is somewhat in the position of the learned judge of old who sought in vast tomes for the wisdom that would lead him to a true judgment of the witch before him. Had she

[1] In speaking of the "popular failure" or "the ideas of the ordinary man," there is a connotation of superciliousness which is very far from the author's intention. Men who in their public decisions often fall into such gross fallacies, e.g. sending a man to Parliament because he is a famous cricketer, as though cricket were a qualification for dealing with trade and unemployment and taxation, are usually in all that relates to their business and private affairs acute and logical. The public is an ass, but it is not made up of asses.

[2] Bad, that is, not merely temporarily and when we do not make, as we ought to make, provision for those displaced by new processes, but bad in an ultimate sense. If the worker saw plainly that in the long run the use of labour-saving machinery was greatly to his advantage, his policy would be, not as it now so often is, opposition to its introduction, but insistence that part of the saving effected should be devoted to real provision (including training, it may be, for a new trade) for those no longer employable by the old method.

the power to slay her enemies by spells and to pass through stone walls? The most relevant fact—that he, the jailer, lived and locked her each night in a prison cell—was closest to his hand and the one most ignored.

For a thousand years kings and Parliaments and statesmen and merchants have acted in policies which touch this question (and still act) as though the patent fact were not a fact.

Now the economists have very generally recognized that the confusion between money and real wealth is indeed the sovereign confusion, although their work does not seem to have done very much to clear it up, since the fallacy is about as vigorous as it always was. Indeed, the first impetus to the growth of a scientific political economy was, Gide tells us,[1] "the protest against the popular conception of money." The science had scarcely been founded, he points out, when Boisguillebert in 1698 declared, "It is quite certain that money is not a good of itself, and that its quantity has nothing to to with the opulence of a country."

The same protest was expressed by Frédéric Bastiat, who was not only a great economist but one of the greatest and clearest explainers of economics that ever lived, when a century and half later than Boisguillebert he exclaimed: "Accursed money, doubly accursed money, the bemuser and misleader of men's minds." One would have said that if ever clear exposition could have exploded fallacies, Bastiat's

[1] *Principles of Political Economy,* Veditz translation and adaptation, p. 220, W. C. Heath & Co.

work would have exploded the group of fallacies that rotate round the Mercantilist illusion. Yet less than a generation after Bastiat wrote we find an American economist[1] bewailing the fact that the "Practical Man" was as much the victim of the Mercantile theory as ever. "Take up the daily paper and read the City articles," he says, "and you will find all the old Mercantilism revived in the discussion of the exchanges, or foreign trade or monetary policy, or Tariff or Banking."

> The doctrine that gold is wealth—the doctrine which Mr. Mill paints as an absurdity so palpable that the present age regards it as incredible, as a crude fancy of childhood—breathes in every line. . . . What is this, I ask, but the Mercantile theory, pure and fresh, as you heard Mr. Mill describe it? What is it but the resurrection of the Practical Man—the reassertion of himself, of his experience, his appeal to the outward form, to what may be touched and handled? The world fondly imagined that he was vanquished and gone; that Adam Smith had finally disposed of him; that boys and students had learned to pity him, and to pride themselves on having been born after the great Scotch genius. Never was there a greater mistake.
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> It may be consigned by the philosophers to the limbo of nursery toys, but it lives on all the same, is master of the mind of the City, is supreme over City articles, and regulates the barometer of commercial weather, and, above all, is held to know the great secret of trade, and to be able to show men the way to get rich.

[1] Bonamy Price, quoted by H. V. Poor in *Money: Its Laws and History*, p. 406.

Indeed, the protest of the economists has been at times so energetic as to cause the "Practical Man" to hit back with no less vigor. Thus, one "Practical Man," responsible for a *History of Money*, asks:

> What is the reason of this hatred shown by the economists for the practice of treating gold as wealth, the highest form of wealth? The merchant continues so to treat it in the very face of the teachings of the economists that it is not wealth, or that it is the lowest form of wealth.

And this defiance of economic theory is the origin, declares this writer, of the hostility which, he alleges, economists display towards the merchants:

> A reader of the Economists cannot fail to be struck with the hostility, not to say hatred, which all of them display towards merchants. Adam Smith, when he called them "sneaking underlings,"[1] struck the keynote for all his followers. Smith did his best to sustain his theory by sneers and flings at those who grew rich by violation. He declared them to be a mean and selfish race, the abettors of the worst forms of monopoly, and the disturbers of the peace of the world. Price, in his grotesque way, attempts to paint them in still blacker colors. He admits that if the merchant, if the universal instinct of the race, is to be trusted, the teachings of Adam Smith, so far as they relate to money, are shams; that one of the two must go to the wall. The only refuge of the Economists is in crying that the science has been overborne by the selfishness of men of affairs. They cannot deny

[1] Did he?—N. A.

> that these grow rich by pursuing methods precisely the opposite to those which they lay down. The man of millions vaunts his methods; and in reply to criticism upon them shakes his money-bags. The Economists fiercely reply that truth is sacrificed to mammon: but if it be the office of Political Economy to teach the method of wealth, why has not the man of millions the true method, and what need of going beyond his rules?[1]

Now the whole vast literature of this subject of money, currency, credit; so mountainous, much of it so confusing and so fantastic, more apt, one observer had said, to addle the brain of man than any other subject whatever, is but an elaboration of the debate just outlined. In so far as the fallacies arise, they arise from letting go, or a failure, in the first instance, firmly to have held the central truth.

It is therefore this major confusion, the failure to distinguish money and real wealth, which the teacher who is not an economist must clear up in his own mind if he is to make it clear to students. One sovereign fact must be grasped: Money is the representative, or counters, of that part of real wealth—food, houses, ships, silk stockings, railways, mousetraps, farms, hairpins—set aside for the purpose of making exchanges. If we increase the tokens or counters, even though they be of gold, without increasing the things for which the tokens stand, we have not increased wealth, we have only made the tokens or counters of less value.

Messrs. Foster and Catchings—whom it is useful

[1] *Money*, by H. V. and H. W. Poor, pp. 406-8.

to quote because they show a readiness to abandon orthodox views if facts seem to justify it—say in their book on *Money*:

Money will buy whatever is produced—not a particle more by any trick of alchemy, or legislation, or finance. The Russians, having multiplied their money 250,000 times, cannot buy as much with it as before, because they are producing less. When we print more money, there are no more foods for money to buy: not a single additional plough, or hat, or potato. There is the total national wealth, precisely what it was before the printing-presses were set in motion, except that rolls of paper have been stamped and cut up into bills. Consequently, each unit of money buys fewer units of goods. Those who get the newly printed money can buy more goods than before; all other people can buy fewer goods than before, because their money has fallen off in purchasing power. Since there are no more ploughs, and hats, and potatoes, and so forth, to distribute, if some people get more, others must get less.[1]

Mr. Shaw puts the case in these terms:

This process of debasement of the currency by a Government in order that it may cheat its creditors is called by the polite name, which few understand, of Inflation; and the reversal of the process by going back to a currency of precious metal is called Deflation. The worst of it is that the remedy is as painful as the disease, because if Inflation, by raising prices, enables the debtor to cheat the creditor, Deflation, by lowering them, enables the creditor to cheat the debtor. Therefore, the most sacred economic duty of a Government is to keep

[1] P. 119.

the value of money steady; and it is because Governments can play tricks with the value of money that it is of such vital importance that they should consist of men who are honest and who understand money thoroughly.

At present there is not a Government in the world that answers fully to this description. Between our own Government, which took advantage of the war to substitute Treasury-notes for our gold currency, and the German and Russian Governments, which issued so many notes that a van-load of them would hardly buy a postage-stamp, the difference is only one of degree. And this degree was not in the relative honesty of Englishmen, Russians, and Germans, but in the pressure of circumstances on them, and consequently of temptation. Had we been defeated and forced to pay impossible sums to our conquerors, or momentarily wrecked as Russia was by the collapse of the Tsardom, we should not have been any honester; for though the doubling of prices that occurred here seems to have been caused by scarcity of goods and labor rather than by an excessive issue of paper-money, we still treat with great respect as high financial authorities gentlemen who recommend Inflation as a means of providing industry with additional capital. Whether these gentlemen really believe that we could double our wealth by simply printing twice as many Treasury-notes, or whether they owe so much money that they would be greatly relieved if only they could be let pay it in paper pounds worth only ten shillings, is not always easy to guess. But if you catch your Parliamentary representative advocating Inflation, and ask him, at the risk of being told that you are no lady, whether he is a fool or a rogue, you will give him a salutary shock, and force him to think for a moment

instead of merely grabbing at the illusion of enriching the nation by calling a penny twopence. . . .[1]

It is evident from the foregoing that the central fact as to the nature of money is recognized not alone by classical and orthodox economists, but by all who think clearly upon the subject.

Credit

When we come to credit the confusion of the average layman about the nature of money becomes greater still. During the war we were commonly told that the nation's high standard of expenditure —the fact that it could both feed its population and keep the war going with nearly all its workers in the trenches—was due to our "living on credit." But the things which we were consuming were, except for our imports, actually being made by us as we went along. We could not call shells or marmalade out of the future. What the "credit" really did was to provide an apparatus by which existing wealth was rendered available on the understanding that those surrendering it should be reimbursed later.

Bankers cannot create credit out of the air. They have no magic by which bills of lading on nonexistent cargoes can be made equivalent to bills on cargoes that actually exist.

Credit, which is accorded on the expectation that a cargo will arrive, or a crop be produced, or a house built, is only of use because of present wealth. But for that the borrower would obviously have to wait

[1] *The Intelligent Woman's Guide to Socialism and Capitalism.*

for the cargo or crop or house, and not anticipate it by using already available wealth. And, of course, if the expectations are not fulfilled, the credit instrument becomes valueless.

We may clarify some of the confusions, perhaps, by grasping the relation of credit to saving—by means of which alone "credit" can be accorded. "Here," says Mr. C. J. Melrose, "is a producer, e.g., a farmer, who sells the whole of his surplus product; and that portion of the money which constitutes his surplus wealth he buries under the hearthstone or locks up in a safe, and keeps it hoarded. The result is that the demand for those products is less by the amount of claims on them—what we call purchasing power—which is hoarded up. That does not necessarily mean that the products will remain in the dealers' hands unconsumed; but it does mean that they will have to be disposed of at less than current prices, probably at a loss, since the effective demand at current prices is so much less than the supply."

But another farmer puts his money or credits into a bank. The banker issues loans against the credits deposited with him—in effect, he transfers the credits owned by one person on to another person. It is true that he does not actually write off the credits of his customers by the amount of the loans he granted; but that is only a question of form rather than of substance. Experience has taught him what proportion of the deposits are habitually called for by his customers; and, except only during such abnormal times as the nation being at war, and then only with Government guaran-

tees and protection, he takes good care that the amount of his loans shall not trench upon the amount likely to be called for by his depositors. As soon as he finds that the demands of his depositors pass the customary limit, he calls in his loans, most of which are at short notice or at call.

What follows is obvious. The surplus wealth—the savings—instead of being hoarded, is now being consumed. The surplus wealth created by some is put at the disposal of others, and is consumed by workers who are employed (1) either in extending established industries, or (2) in starting new industries, or (3) in producing new capital, or (4) in renewing old capital as it gets worn out. In the first two the loans are repaid out of the surplus wealth of consumable goods produced, and in the last two they are repaid in the long run out of the increase in production occasioned by the use of the created capital. If all money and credits were deposited at banks, and bankers could lend out the whole of the deposits held by them (less till money), economic progress would be accelerated.[1]

What the banker does, of course, is to serve as an intermediary, assembling odds and ends of savings, making them available in a lump, and connecting the man who can use savings for future production and the man who has them to spare. Sometimes, of course, the mechanism of this assembling disguises the real nature of the process. Mr. Melrose, with reference to the contention that bankers actually create credits, because when they issue loans they do not write off a corresponding amount from the credits standing to the names of their customers,

[1] *Money and Credit*, by C. J. Melrose (Collins & Son), pp. 46-48.

which, of course, are liable to be demanded, uses these illustrations:

Of those booking seats at theatres a certain number are invariably unable to turn up. Let us say that experience has proved that this number is never less than five per cent. The management can then sell an extra five per cent. of seats, the excess being sold conditionally that the holders must take what seats there happen to be vacant. Could it be said that they are "creating" seating accommodation which has no existence in fact? The argument is that it is the business of bankers to "create" credits, and that being so they should create sufficient for all industrial and commercial needs. . . . But it is the business of the bankers to "transfer" credits, not to "create" them. Let me enforce the point by another illustration.

At a children's school treat, one of the items consisted of a distribution of tickets for prizes to be drawn out of a bran-tub. A larger attendance having turned up than was anticipated, the prize tickets did not quite go round. One of the ticketless youngsters started blubbering. "I am awfully sorry, sonny," pleaded the teacher, "but I really cannot help it—there are not any more tickets left." "Write out some more," tearfully responded the aggrieved youngster. A great number of grown-ups are like that boy. They do not appear to realize that before prizes can be drawn out of a bran-tub someone must first put them there. They propose to manufacture claims on things in the market which are not there to be claimed. The result will be, of course, an inflation of money in relation to things; and the consequence a gradual rise in prices until a new equilibrium is established.

Mr. Shaw is more boisterous than usual in his insistence upon the main truth:

When you hear of a woman living on credit or building a house on credit or having a car on credit, you may rest assured that she is not doing anything of the kind: she is living on real victuals; having her house built of bricks and mortar by men who are eating substantial meals; and driving about in a steel car full of highly explosive petrol. If she has not made them nor paid for them, somebody else has; and all that her having them on credit means is that the bank manager believes that at some future time she will replace them with equally substantial equivalent goods of the same value after paying the bank for waiting meanwhile. When she goes to the bank manager she does not ask for food and bricks and cars: she says she wants credit. And when the bank manager allows her to draw the money, that is really an order for so much food and so many bricks and a car, he says nothing about these things. He says, and thinks, that he is giving her credit. And so at last all the bankers and the practical business men come to believe that credit is something eatable, drinkable, and substantial, and that bank managers can increase or diminish the harvest by becoming more credulous or more sceptical as to whether the people to whom they lend money will pay them or not (issuing or restricting credit, as they call it).[1]

Whether Shaw has not, as the expression goes, leant over backwards in his attempt to stand up straight, we shall inquire in a moment.

The foregoing citations suffice to indicate the nature of the central truth which we must grasp

[1] *The Intelligent Woman's Guide to Socialism and Capitalism.*

first if we are to understand the essential nature of money and its relation to real wealth. What these games do is to drive that truth home and rub it in. The first game shows that currency which does not stand for real wealth soon becomes valueless; the second, that to increase the quantity of money, even gold-money, without increasing the quantity of goods, must raise prices; the third, that bank credits and credit-money, which seem at first sight to be the creation of money "out of the air," are merely the financing of potential wealth by means of existing wealth, that the process is dependent upon real things being created. The money which the Sailor "creates" would be nearly worthless if the bits of machinery and the expectation that they can be put together to constitute constructive enterprises did not exist.[2] But for the bits of machinery the notes of Game No. III would soon become waste-paper. (Though not quite, for they are always a claim upon a certain amount of gold.)

But in insisting upon the necessity of thus isolating a central truth, it is once more important to

[1] As to certain qualifications which should be made, see p. 125.

[2] A very common question—and a very useful one from the point of view of the teacher—which arises from the third game is: "How is it possible, on a basis of $500 in gold, to make all these loans?" But, of course, the loans are not made on the basis merely of the $500 gold. They are made on the prospective value of the bits of machinery on the Island. That machinery constitutes potential wealth. They are actual things which, manipulated in a certain way, become still more valuable things. The Sailor-Banker says, in effect, to the Islanders: "With this note, which is a contingent claim on gold, you can secure subsistence permitting you to put things together in such a way as to bring other substances into being. When that has been done, those substances, represented by notes, can do the same thing. And so on."

distinguish between what is indispensable and what is sufficient. I do not say that it is sufficient for the understanding of all currency problems to absorb this one truth: I say it is indispensable, that we can never hope to understand those problems unless we do absorb it, and that if we absorb it we shall not fall into the worst fallacies. There may be many intricacies we shall never master, but we shall not be misled by chimeras, wander off through the forest in altogether wrong directions.

The sophisticated will, of course, realize that these games stop short of the controversial issues of monetary theory. They show the fundamental mechanism of money and banking as it now operates. It is, of course, quite open to the reformer to suggest that the mechanism should be modified or applied in ways which are not the present ways. But to be able to discuss with any profit proposals for altering the present mechanism, it is obvious one must be clear as to what that mechanism is.

In so far as the games suggest economic doctrine, it is doctrine common to all the rival champions who have shaken themselves free of the primary illusions; they are propositions which, in fact, cannot be challenged. The only "theory" suggested in the games is the theory that money which, like the German paper-marks, is created in vast quantities without regard to any increase in the quantity of goods must decline in value in terms of those goods; that money so manufactured does not constitute wealth; does not miraculously summon cabbages and eggs and bacon from the air, and

is no substitute for ploughing and reaping and thrashing and weaving or other forms of work. This proposition does not of itself invalidate such propositions as that in given circumstances inflation may be a practical form of taxation, or a workable means of effecting a desirable transfer of burden from debtor to creditor, from tax-payer to bond-holder; of giving a stimulus to production, or achieving a score of other conceivably good ends. But we cannot even know what we are doing unless we are clear about the mechanism involved, and which these games illustrate.

On "Over-Simplification"

The teacher here, as so often, is confronted by a problem of selection: what are the indispensable truths, the pivotal facts, the central explanatory processes? What is "the general idea"? To know a few such things well, inside out, is very much more likely to help us to keep clear of error than to know many odds and ends of facts which are unrelated. One must accept the risk of "over-simplification" for the simple reason that the first apprehension of any general principle is an over-simplification. We could never explain or understand any process unless we began first with an "as it were" assumption, which is an over-simplification and does not embrace all the facts. "Truth comes out of error more easily than out of confusion." An over-simplified theory can more easily be corrected when it bumps against a fact than truth can

be disentangled from an unconnected clutter of odds and ends.

In this money matter we are confronted by this situation: a tangle of fallacies and misunderstandings has arisen because the average layman confuses the counters with the things they count; believes that all we have to do to be richer is to get more counters; that the nation can get the foreigner's money and keep out his goods, and so on and so on.

Now if ever the layman is to be led from that morass there is, as we have seen, this one major distinction: you must first of all make clear to him that money is not wealth; it is the representative of, or demand for, wealth. It is no more wealth than the deed to a house is a house; and you can no more increase wealth by increasing money than you could solve the housing problem by setting the lawyers to make out millions of deeds and presenting them to the population.

Until the layman has got the distinction really clear in his mind, the statement should not be complicated with qualifications. If he cannot understand it without complications, he won't understand it with.

But having made the primary distinction clear, you can then tell him that the statements employed in the clarification are not true statements or not the whole truth. It is not true, without certain complicating qualifications, to say: "You cannot add to a community's wealth by adding to its money," or to say: "To increase money without increasing

goods must raise prices."[1] It is not true to say, without qualification, that water will not run uphill. It runs uphill every time you suck lemonade through a straw. But it is only by understanding the nature of the fundamental law that one can understand the qualifications which are valid and those which are not.

Let us illustrate again from the field of the physicist.

An engineer, dealing with a very ignorant community, desires to show that his conduits and aqueducts must follow a certain line, and for that purpose desires also to get into the heads of his governing committee one prime fact: water will not run uphill. That becomes, rightly, his slogan. Yet the statement, as already noted, is quite incorrect. Not only does water run uphill when we suck lemonade through a straw, but it can be made to run uphill a long way by syphoning. Yet as a working basic principle his over-simplification is sound.

Now one could say of the common lay notion in relation to money that the average man believes that water can run uphill as readily as down, and that he regards the principles so often invoked by the financial engineers as "all theories." He does not see why, if an Englishman, the Germans cannot pay their indemnity in money without creating

[1] It would be more exact of course to speak of money in terms of circulation rather than of quantity. But the conception of two "flows"—the flow of money and the flow of commodities—going on concurrently is for the layman a difficult one to start with, and it is preferable at first to talk in terms of quantities.

goods; nor, if an American, why the Englishman cannot pay his debt to America in the same way.

The same layman wants money kept within the country; is distressed unless the country has a favorable balance; regards it as the plainest of common sense that if there is more money about everybody is bound to be more prosperous.

In an attempt to deal with this state of mind one starts with a preliminary statement to the effect that to increase the amount without any corresponding increase in the amount of commodities must ultimately result in the rise of prices; that you cannot increase real wealth merely by increasing money. If you can get the layman to see the general principle underlying this, can get into his mind the distinction between money and real wealth, you have made possible a new attitude which, to put it at its lowest, is less hopeless from the point of view of the scientific economist. The man who is able to grasp as much of the function of money as will enable him to distinguish between the counters and the wealth it counts, will be less likely to embrace certain fallacies, much more likely to acquiesce in the better policy of the economist. Yet his advance will have been effected by an untruth or an incomplete truth.

Necessary Qualification of the Central Proposition

The statement that "if you increase the quantity of money you reduce its value" implies, of course, the condition "other things being equal," the other

things being mainly in this case the conditions of demand for money. It is clearly conceivable that the change in the quantity of money available might itself produce a change in the conditions of demand for money (that is, either in the extent to which the community insists on using money, or in the volume of things to be exchanged, or in the frequency with which they change hands), which would make the assumption on which the theorem rests ("given the conditions of demand for money") no longer applicable. Moreover, the quantity of money available is not the same thing as the quantity of money in existence. "The relation between the quantity of money and its value, like all other relations, must be taken to apply relatively to some period of time—let us say a week. But during that week some of the pieces of money in existence will not be available for work; they may be holiday-making in my pocket, or taking a prolonged rest-cure in the bank, or even being 'cooled a long age in the deep-delved earth.' On the other hand, some will be available twice or thrice or many times, and will be used in one short week for a number of quite separate transactions. In estimating the demand for money, we must take into account not only the volume of goods to be disposed of within a given time, but also the frequency with which each of them changes hands."[1]

It is this element of velocity of circulation which it has not been found practicable to illustrate by these games (though the inventor is at work upon

[1] Dennis Robertson, *Money*.

supplementary games which will illustrate this and other factors as well).

Meantime, it should not be difficult for a teacher to make this qualification clear. Mr. Robertson has in his book on *Money* a story which should help:

> On Derby Day two men, Bob and Joe, invested in a barrel of beer, and set off to Epsom with the intention of selling it retail on the race-course at 6d. a pint, the proceeds to be shared equally between them. On the way Bob, who had one threepenny-bit left in the world, began to feel a great thirst, and drank a pint of the beer, paying Joe 3d. as his share of the market price. A little later Joe yielded to the same desire, and drank a pint of beer, returning the 3d. to Bob. The day was hot, and before long Bob was thirsty again, and so, a little later, was Joe. When they arrived at Epsom the 3d. was back in Bob's pocket, and each had discharged in full his debts to the other, but the beer was all gone. One single threepenny-bit had performed a volume of transactions which would have required many shillings if the beer had been sold to the public in accordance with the original intention.

Some of the "basic" propositions about the nature of money here outlined or implied might receive qualifications which raise more controversial issues. In a quotation given a page or two back from the book of Messrs. Foster and Catchings occur the lines:

> When we print more money, there are no more goods for money to buy: not a single additional plough or hat or potato.

"Not by any trick of alchemy, or legislation, or finance," add the authors. The Russians, we are told, having multiplied their money many millions of times, cannot buy as much with it as before, because they are producing less. And a reader might conclude from this that the author would condemn as hopelessly unscientific any device for increasing wealth, or welfare, by varying the amount of money. Such a conclusion would be but an illustration the more of the difficulty of conveying the whole truth in such a matter as this in a simple statement. For the authors go on to suggest that as the whole of our modern economic system is founded on money that system cannot be controlled to the ends of most effective production without controlling money, which means, broadly, controlling its quantity. They say:

Since ours is a money economy, and since it is therefore almost exclusively through the use of money that productive relationships are maintained, as far as they are maintained at all, among men, machines, and materials, the question naturally arises to what extent the characteristics of money are responsible for industrial depressions. In the United States, at least, other explanations do not carry us very far. In many countries there are economic difficulties due to density of population, lack of natural resources, devastated areas, loss of man-power, unstable government, adverse climatic conditions, widespread illiteracy, and unprogressive methods of production and distribution. To none of these causes can we ascribe the plight of our own country in 1921. We had plenty of resources, human and material; we seemed to lack only the means of using them. . . . The

chief factors in business fluctuations can be measured with a high degree of precision, and are much more amenable to human control than has seemed possible in the past. Dominant among these factors is money.

The authors quote, in confirmation of their view as to the rôle of money in the trade cycle, a very distinguished American economist, Professor Wesley C. Mitchell, who has made the business cycle, the phenomenon of recurrent depressions, his special study. Referring to the depression of 1921, he writes:

Millions of us were idle when we wished to work, billions of dollars' worth of plant and machinery stood unused when the owners longed to start their furnaces, and what we wanted to produce we needed to consume. The edict of enchantment which forbade us to do what we wished was pronounced by the money economy. We are periodically mastered by this social machinery we have made, and stand idle and needy at its bidding. For with all its efficiency, the money economy has a fundamental defect—it warps the aim of our economic activity. What we want as human beings is to make serviceable goods. What we are compelled to do as citizens of the money economy is to make money. And when for any reason it is not profitable to make goods, we are forced to sacrifice our will as human beings to our will as money-makers. That is the heart of the paradox.

Professor Mitchell believes that we can control the device:

Since the money economy is a complex of human institutions, it is subject to amendment. What we have

to do is to find out just how the rules of our own making thwart our wishes and to change them in detail or change them drastically, as the case may require. Not that this task is easy. On the contrary, the work of analysis is difficult intellectually, and the work of devising remedies and putting them into effect is harder still. But one has slender confidence in the vitality of the race and in the power of scientific method if he thinks a task of this technical sort is beyond man's power.[1]

In view of the foregoing one may ask whether Mr. Shaw has not carried simplification (for which, however, this book is largely an argument) a little too far, and disregarded its risks a little too airily, when, writing of the lady who talks of "living on credit" when, in fact, she is living on victuals, he argues, or seems to argue, that the degree of credit accorded by the banks cannot affect the production of wealth. He says:

The City articles in the papers, the addresses of bank chairmen at the annual shareholders' meetings, the financial debates in Parliament are full of nonsensical phrases about issuing credit, destroying credit, restricting credit, as if somebody were shovelling credit about with a spade. Clever men put forward wonderful schemes based on the calculation that when a banker lends five thousand pounds' worth of spare subsistence he also gives the borrower credit for five thousand pounds, the five thousand credit added to the five thousand spare subsistence making ten thousand altogether! Instead of being immediately rushed into the nearest lunatic asylum, these clever ones find disciples both in Parliament and in the City. They propose to extend our industries (that is,

[1] *The Stabilization of Business*, New York, 1923, pp. 52-53.

build ships and factories and railway engines and the like) with credit. They believe that you can double the quantity of goods in the country by changing the cipher 2 into the cipher 4. Whenever a scarcity of spare subsistence forces the Bank of England to raise the Bank-Rate, they accuse the directors of playing them a dirty trick and preventing them from extending their business, as if the Governor and Company of the Bank of England could keep the rate down any more than the barometer can keep the mercury down in fair weather. They think they know, because they are "practical business men." But for national purposes they are maniacs with dangerous delusions; and the Governments who take their advice soon find themselves on the rocks.[1]

Well, it is not really quite as simple as that.

We can illustrate one of the fundamental points of the discussion by noting an important difference which usually distinguishes war finance from peace finance. In war-time the Government raises a loan; a citizen subscribes five thousand dollars and gets a bond. The Government spends the five thousand dollars on a few shells (that is to say, takes from the stock of food and supplies to keep workmen going while making the shells), fires them off, and that is the end of the business. It has not created anything wherewith to pay off the loan. It has diminished the available "capital" (food, etc.), but not the money. Prices rise. The bond-holder needs an overdraft; pledges his bond (which stands for no new addition of goods), subscribes to another loan, and

[1] *The Intelligent Woman's Guide to Socialism and Capitalism.*

the same process goes on: all the time more money, all the time less goods.

But suppose instead of shells the Government used the five-thousand-dollar loan, and the new currency notes issued in consequence of the loan, to build a house; and when built sold it to the public for something over five thousand dollars, and with that money redeemed the bond, the Government would then, by its debt, have created means of cancelling its debt. There would be an addition of goods equivalent to the addition of money.

Put it another way: a builder goes to a bank for a five-thousand-dollar loan. Assume, for simplicity, that the Bank issues a thousand new five-dollar bills and gives them to the builder. A year later the builder sells his house, getting from the public a thousand of the new five-dollar bills for it (they may be the bills he spent); takes those to the Bank; redeems his promissory note; the Bank has back the thousand five-dollar bills, destroys them. There is the original amount of money, but a house as well. If the building of the house has cost less than five thousand dollars (has not called for more than five thousand dollars' worth of food, supplies, and labor, that is), the tendency to raise prices, which operated when the thousand five-dollar bills were diminishing the supplies of food, etc., has been offset by the tendency to lower prices (e. g. rents) when the extra money is withdrawn and the new commodity comes into being.

Now the point is that what the builder has to pay back is not the food and bricks which he is really

using, but a third commodity, money, say, gold, or claims to it. If in the intervening year of building the house that commodity has so diminished in quantity that he can only get forty-five hundred dollars for his house, or if he fears that this will happen owing to the restrictions in the making of money, he won't venture. In practice it may well be true that food will be consumed (for bricklayers must eat whether at work or not), but the human energy will remain unused, and the world will be poorer for lack of "credit," or because of the tendency for prices to fall.

Mr. Dennis Robertson points out:

> It is not sufficient . . . to dismiss the views of the "more money" enthusiasts as obvious nonsense, as is so often done by certain rather confident persons who pride themselves on being "sound money" men. The heretics seem to have grasped more firmly than many "orthodox" economists and practical men this central truth, that the creation of a really satisfactory money would be regulated primarily by the needs of trade, and not by any such essentially irrelevant matter as the quantity of some particular metal. We are bound, therefore, to inquire what would happen in a progressive industrial community if the banking system proved unduly reluctant to create increments of money. . . .
>
> In a community where the supply of goods was increasing year by year, while the supply of money remained fixed, the quantity of goods in the hands of sellers of goods would increase, while the total quantity of purchasing power in the hands of buyers of goods would be unaffected; in order, therefore, to prevent goods for which they have no personal need accumulating

in their possession, the sellers would be obliged to part with them at a lower price. Thus prices would fall for one of the only two reasons for which prices can fall—because the possessor of goods would be content to accept less money for them than formerly.

Now how could the banks prevent such a state of affairs? There is only one answer. . . . By lending more money to the buyers of goods they could impart to prices a tendency to rise, for one of the only two reasons for which prices can rise—because those who want goods will be able and willing to offer more money for them than formerly. And by so regulating the amount of their additional loans that this tendency just counteracted the other, the banks could ensure the stability of prices and the steadiness of trade.[1]

In order to understand the relation of prices to commercial activity and depression let us take one of the simplest ways in which a movement in the price-level tends to stimulate or depress business. When there is a tendency for prices to rise the wholesaler says: "Let us buy the things now; later on they will be dearer. Let us be sure the order is big enough, so as not to have to buy later at higher prices." The shipowner says: "Let us give an order for the ship this year, instead of next, when it will cost more." But if prices are falling the wholesaler says: "Let us put off giving an order as long as we can: the things will be cheaper later on. Cut your order down to the bone, because the goods will be falling in value." When costs are falling the shipowner says: "Let us build the ship next year or the following year; it will be so much cheaper."

[1] *Money*, Nisbet & Co.

Now it is plain which of these tendencies makes for active trade and full employment, and which for depression and unemployment. The first tendency found its extreme expression in Central Europe at the time of the inflatonist orgy, when people ceased to talk of rising prices but began to talk of the falling value of money; and got rid of money in exchange for goods immediately, for fear they should be left with worthless paper.

People filled cupboards with shoes for the time when their children should be grown up; with electric bulbs they might find of use five or ten years hence. Industry, of course, had a feverish stimulation. But the defects of the device were evident on its face. The whole money contrivance was rapidly going to pieces; those who had saved painfully during a whole lifetime were robbed of the results of their life's toil; those dependent on fixed incomes, pensions, etc., were reduced to penury; contracts indispensable to the work of civilization were becoming impossible to make in terms of the current money, and men were turning to foreign money, dollars, Swiss francs, gold, or commodities, as the only means of carrying on life. In other words, they were abandoning inflation because it had utterly broken down.

But cannot we have "moderate" inflation? Perhaps. Mr. Robertson, who is certainly an authority and who has no great faith that money has much fundamental importance, thinks we can.

A progressive increase in the supply of money and rise in the price-level, so long as it is not so blatant as

to generate social disorder or sap the foundations of contract, by adding to the money demand for goods, stimulates also the production of goods; by benefiting the pockets of the controllers of industry, stimulates also their energies and activities; by putting facilities into the hands of those who feel confidence in themselves, adds something to the effective brain-power mobilized in the service of industry. And this fillip to production, by adding to the flow of goods, serves to moderate the very rise in prices which gives it birth.

There is no reason to doubt that all this is true. For anyone who prides himself on being a "sound money" man, or is in receipt of a fixed money income, or is interested in schemes for the ideal apportionment of the fruits of industrial progress, it is convenient to forget it; but it is true all the same. A gently rising price-level pleases the business men; and the business men are in the saddle and hold the reins of industry. The "more money" enthusiasts of the business world know, within limits, what they are about. Nor, they may fairly urge, is this a purely selfish preference on their part, designed in the exclusive interests of "profiteers." Is it not rising prices that empty the workhouses and the employment exchange registers, and fill the factories and the shipyards? And is it not better that all should be busy, even though grumbling at the cost of living, than that some should be living cheaply and others left on the streets?

He admits that the stimulus of rising prices is partly founded in illusion.

The salaried official and the Trade Unionist have been beguiled into accepting employment for a lower real reward than they intended. Even the business leader

is the victim of illusion; for he is spurred on not only by real gains at the expense of his debenture-holders and his doctor, and even (with a little luck) of his workpeople, but also by imaginary gains at the expense of his fellow business men. It is so hard at first to believe that other people will really have the effrontery or the good fortune to raise their charges as much as he has raised his own. But whether real or illusory, the spur is effective; for in economic as in other matters human endeavor feeds partly on illusion and only partly on truth.

So long as the control of production is in the hands of a minority, rewarded by means of a fluctuating profit, it is not impossible that a gently rising price-level will, in fact, produce the best attainable results, not only for them but for the community as a whole. And it is tolerably certain that a price-level continually falling, even for the best of reasons, would prove deficient in those stimuli upon which modern society, whether wisely or not, has hitherto chiefly relied for keeping its members in full employment and getting its work done.[1]

Mr. Hartley Withers must also be reckoned among the "gentle inflationists." In his book, *The Meaning of Money* (pp. 17–19), he writes:

Even when the importance of gold as the universally acceptable medium of exchange is admitted, it is often denied, by economic theorists and other critically-minded observers, that the amount of available gold is a question of any moment. In theory it is easy to argue that, if the amount of gold were suddenly doubled, the world at large would not be a penny the richer, because the buying power of the gold would be halved, the price of every-

[1] *Money* (Nisbet & Co.), pp. 123-5.

thing would be doubled, we should have twice as much for everything that we wanted. But I venture to think that it is easy even in theory to push this contention too far; because any such great addition to currency and credit would have a great effect in stimulating production, and so would lead to a great addition to the number of real goods which humanity desires and consumes when it can get them. In so far as this was so, the condition of humanity as a whole would be materially improved. Trade would be more active, and the many borrowers, who are almost always in search of credit for the promotion of various productive enterprises, would be more easily provided. In fact, the extent to which trade and economic progress have in the past been quickened by additions to the supply of the precious metals has produced a theory, with respectable authority behind it, which connects the development of civilization with mining activity. . . .

Between these two theoretical extremes—one maintaining that the available volume of the precious metals is a matter of no importance, the other regarding it as the cause of the most momentous events in human development—it is probably safe to steer a midway course, marked by the buoys of actual fact. Experience shows that an era of active gold production may be accompanied by a fall in the prices of commodities, either because the multiplication of commodities may be progressing more rapidly than the output of gold, or because inactivity of trade, perhaps due to some shock to credit, may be checking the demand for commodities. But when the more normal effect of increased gold supplies is at work, and the prices of goods are rising, the producers of the goods are thereby benefited, and set to work harder than ever to produce them.

This passage raises a further question. Assuming that it is desirable to have an increase of money, that the discovery of some new supply of gold would, as Mr. Withers implies, be of great national benefit, why, in the name of common sense, should we deliberately make our prosperity dependent upon such an extraneous and irrelevant thing as the discovery of a particular kind of metal? Why, in other words, anchor our money to gold at all?

The reply is simple. The main argument for gold comes down to this: You cannot trust Governments, which means that you cannot trust electorates. A Government which can solve its financial difficulties, for the time being at least, by printing money would always be in danger of doing it, and it would usually be a popular thing to do. The same difficulty of clear thought about these things which cause the European peoples to strangle themselves in a net of tariff barriers, would expose currencies not anchored to gold to the instabilities of lobbying, political "pulls," and demagogy, which we see operating in the case of the tariffs. Moreover, the regulation would have to be international, which adds great difficulties.

Still, the "managed currency" may come. Its great protagonist in England is Mr. J. M. Keynes, and those interested should read his book *Monetary Reform*.

A less thoroughgoing scheme is that of Professor Irving Fisher, who proposes to retain gold but to get over the fluctuations of its value. His scheme is described by Professor Lehfeldt thus:

He would adopt a currency in which the gold coins or notes, whichever were used, were redeemable in bullion, not by a fixed weight of metal, but by a weight adjusted to represent a fixed value of goods. The public would use the coins or notes just as they do now for all transactions (checks payable in such money would be used as at present). Only if anyone wanted gold for export, for manufacturing, or for hoarding, would there be a difference. The dollar would not mean 1.50467 grammes of gold, as at present, but a greater or smaller weight, according as gold had become less or more valuable in terms of goods. There would be an official index number, calculated by an independent and impartial office, and the authority issuing the money, Treasury or central bank, would be bound to exchange money for bullion, or bullion for money, at the rate calculated by the index number of the office. Thus the dollar would always buy the same amount of goods, while at the same time gold bullion could be had for the purposes of foreign trade on demand. If gold coins were still used, they would have to be token coins, i.e. contain less gold than the standard quantity, for obviously no one would exchange a gold coin against a weight of bullion less than itself; if he wanted bullion he could melt it down. But probably gold coins would not be used; paper-money would serve for home business, and gold be reserved for export. Of course, other countries could adopt the same plan, and no doubt it would work more smoothly the more generally it was adopted.[1]

[1] Professor Alfred Marshall says: "It has often been suggested that the supply of a nation's currency itself might ultimately be so adjusted as to fix the purchasing power of each unit of the currency closely to an absolute standard. In spite of the severe criticism to which this suggestion has been subjected, there seems no good ground for regarding it as wholly impracticable; but many long and tedious studies, stretching perhaps over several generations, and many tentative experiments moving cautiously toward the

Professor Lehfeldt points out that a good deal of regulation is done already. Before 1914 the Bank of England was called upon to see that Britain retained enough gold to assure the working of the Gold Standard. This meant that, when a considerable outflow of gold took place, the value of the currency had to be raised by a reduction in the amount of credit money. The bank raised its rate of discount so as to influence the commercial banks to restrict the granting of credit to customers, and reinforced its action by selling securities, and so gathered in some of the floating supply of money.

This is the way national money is kept equal in value with gold, a condition necessary to the maintenance of the Gold Standard. After the war the Bank of England continued to use the regulation of the Bank-rate, and the purchase and sale of securities, with the object of keeping sterling approximately constant in purchasing power, although it was depreciated relatively to gold. It has become clear that the familiar methods of regulation have an important use in avoiding the smaller and more rapid fluctuations in prices; they can be applied all the more effectively if there is an understanding between the monetary authorities of the leading countries, especially Britain and America. This

ideal goal, would need to be taken before any large venture in this direction could properly be made" (*Money, Credit and Commerce*, London, 1923, p. 20).

Professor Lehfeldt points out also: "The gold-using group of States may raise a larger superstructure of paper and credit money on the same stock of gold; the greater number of units of money so created will cause the value of the unit to fall, even if the unit be a gold coin. This is just what happened as a result of the war; gold fell to about two-thirds of its previous value" (*Money*).

kind of regulation, Professor Lehfeldt thinks, is helped by the use of the Gold Standard, as the mass of monetary gold acts as a reservoir of value.

When we come to the ultimate question, "Why Gold?" we reach the obscure regions of psychology —the psychology of myth, tribal fetish.

It will be noted that in the story of the Sailor neither of the two blocks of gold ever *is* sent to be minted; that no one, indeed, has any positive proof that it *is* gold. And if it were not, if it had never had any existence at all, if the blocks had been gilded stones, it would not have made one iota of difference to the economic situation of the Island *so long as the Islanders continued to believe the blocks to be gold.* So long as that belief remained unshaken, though it might be completely groundless, it would continue to perform its function. Without the confidence created by those blocks the Sailor could never have carried through his enterprises and created all the wealth which ultimately he did create —wealth which, in the course of years, may well have amounted to thousands of times the value of the gold. But those blocks, which nobody ever even looked at, served no earthly or human purpose, except to "inspire confidence." It would not have made the slightest difference if both blocks had suddenly disappeared from the Island and been lost at sea—so long as the Islanders knew nothing about it.

Now this, like most else in the story, is designed to illustrate a counterpart in the world we live in.

Nobody, save, perhaps, a few bank and mint

officials, ever even sees the gold that is the "ultimate security" of our financial universe. The mystic Atlas is a dead thing buried away in cellars. At times the boxes containing the bullion are solemnly taken out of the cellars in London, put on a ship, and put in cellars in New York or Washington; where they may remain for years unseen until some financial "need" will cause the boxes to be brought up, put on to a ship once more, and returned to the cellars of London.

If the boxes were as empty as Mme. Humbert's safe, it would not matter one tiniest fraction, so long as nobody knew anything about it, and "confidence" was undisturbed, and Governments did not play tricks with the currency.

Here is a true story,[1] the fuller details of which are given by Furness in his *Island of Stone Money.*

There is among the Caroline Islands an island called Uap, whose money consists solely of huge stones called *fei,* many of them so large that they cannot be moved, so that even when they change hands in the course of business their physical location is left unchanged. In fact, the richest family in the island holds that position in virtue of being the owner of a huge stone, which was accidentally sunk from a raft while it was being brought to the island many years ago. For several generations this stone has been lying at the bottom of the sea, and none of the present generation of the family has ever seen it; but nobody questions that they are the richest family in the island. Some time ago

[1] Quoted in *Economic Journal,* June 1915.

the natives allowed the roads of the island to fall into disrepair, and steadily refused to mend them; and the Germans, who were at that time in possession of the island had to devise some means of inflicting a fine. It was clearly useless to attempt to remove any of the stones from the island. "At last," so the account runs, "by a happy thought, the fine was exacted by sending a man to every *failu* and *pabai* throughout the disobedient districts, where he simply marked a certain number of the most valuable *fei* with a cross in black paint to show that the stones were claimed by the Government. This instantly worked like a charm; the people thus dolefully impoverished turned to and repaired the highways to such good effect from one end of the island to the other that they are now like park drives. Then the Government dispatched its agents and erased the crosses. Presto! The fine was paid, the happy *failus* resumed possession of their capital stock, and rolled in wealth."

Stones were their fetish, gold is ours. One, apparently, is as necessary, and as good, as the other.

Broadly, the issues of the money question are outlined in the foregoing summary and citations. The reader who has followed the outline and played the games will know enough of the subject to be aware, at least, of the kind of error and confusion into which the layman is most apt to fall, and will have some notion of what are the main issues of the monetary discussion. The ground covered will enable a teacher to use these games with profit, and

the average layman to clarify his own thinking and help others with theirs.

If, in addition to the material furnished here, the teacher who desires to use this device in schools were to absorb two or three popular books on money, he would probably know as much economics as is necessary in this connection. He might begin with D. H. Robertson's *Money*,[1] following that with Lehfeldt's book with the same title.[2] If drawn to the more controversial aspect he could follow with a course in Maynard Keynes, Irving Fisher, Professor Soddy, Wesley Mitchell, J. A. Hobson, A. B. Adams, Taylor Peddy, William Foster and Waddil Catchings, E. Lloyd, and a host of others. The literature of the subject is indeed illimitable, but however important from the point of view of those engaged in the discussion of monetary reform, the reading necessary for a teacher engaged in using this device could well be embraced in the works on money by Robertson, Lehfeldt, Hartley Withers, and, as a convenient anthology of varying points of view, Moulton's *Money and Banking*.

In the case of the teacher who happens to have read no economics at all, the general economic reading, apart from *Money*, which he will find most useful is the too much neglected Frédéric Bastiat. Bastiat deals in the simplest possible way with the fallacies which flourish, it would seem, as mischievously as ever.

His broken window illustration and Candlemak-

[1] Cambridge University Press.
[2] Oxford University Press.

er's Petition are classics, imperishable examples of clarity of exposition of economic issues which still befog the minds of millions. Some of his work, like his *Harmonies of Political Economy*, is out of date and even unsound, but his *Economic Sophisms*,[1] "What is Seen and What is not Seen: or Political Economy in one Lesson," can never be out of date. Few modern popular books professing to give an outline of economics bring out essential points as Bastiat brought them out. There are, of course, a very large number of modern books on elementary economics for the student, most of them admirable. The works of C. J. Bullock, T. N. Carver, Fairchild, Furniss and Buck, of Wright and Field, R. T. Ely, F. T. Carlton, J. R. Turner, William Warrand Carlile, are all well known. Some, like Henry Clay's *Economics for the General Reader* (New York, 1914), are written with a special view to the layman's needs.

Indeed, good economic literature, even for the general reader, is not rare. Why has it had so little effect in securing a more widespread understanding of economic matters?

Those interested in that question—and for a country dependent more than is any other country whatsoever upon sound public policy economically, the question is an important one—would do well to consider certain points raised in the next chapter.

[1] English translation, published by Putnams, New York.

CHAPTER II

A CHAPTER FOR TEACHERS

Why Schools can no longer ignore Economic Ignorance—
What is a "smattering"?—How to Introduce this
Game into Schools as a non-curriculum subject—
And to use it as a means of setting up an interest
in Social Science as a whole.

In presenting any device which has to surmount the inertia of old method and familiar habit, the innovator, in trying to avoid one of two considerable dangers, is likely to run into the other. In his effort to overcome the inertia he runs the danger of claiming for his innovation qualities which, in fact, it does not possess. If he is careful to limit his claims, he runs the danger of appearing to present a case insufficient to justify disturbance of the old ways.

I am conscious of that difficulty now. This device is not going to revolutionize education. There are vast areas of the educational field, and those, perhaps, the most important, which it does not touch directly at all. Yet it does touch upon an absolutely vital problem of modern education which remains unsolved; it may furnish the key to a solution. What I am concerned to show is, *not* that a device like this is all-sufficient for the correction even of economic error, *not* that it is a panacea, but that it is indispensable to the correction of

popular economic error; not that it is of itself enough, but that it is necessary. And that, after all, is all that need be shown to justify its adoption.

It is necessary because, for the reasons outlined in the first chapter of this book, we cannot continue indefinitely to omit from the education of the immense majority of our people, whose public opinion after all governs society, any real knowledge of the most potent of all social forces.

Teachers and others have sometimes remarked in reference to the use of these games:

> "I do not happen to have read economics, and money is a particularly difficult part of it. Questions will arise which I should not be able to answer, or which, if I attempted to answer, I should answer wrongly.
>
> "The amount of economic knowledge which these games can impart is so small as to constitute a mere 'smattering.' One should be thorough. A little knowledge, etc. When specialists disagree, how can the layman hope to have an opinion worth anything at all? Far better leave the whole subject alone."

To which I would reply:

> (1) If the result of not knowing the thing at all, so far as the public were concerned, were that it formed no opinion on the subject and left decisions to the specialist, there would be a very great deal to be said for such a method. But the lay public forms strong and usually

quite fallacious opinions on economic matters, and insists, often with electoral violence, that they be carried into effect, and is usually utterly contemptuous of the specialist's opinion.

(2) No subject taught in school—or anywhere else for that matter—ever can be "complete." Certainly no school subject can ever be more than a smattering. Is the knowledge of mathematics, history, geography, dead or modern languages, acquired by the ordinary school-child "complete"? The teacher is confronted by a problem of selection, and the division into "subjects" is, of course, artificial. To teach any one subject one must call upon bits of others. Would a teacher of English history omit all reference to, say, the Reformation because that touches upon another "subject"—theology?—to the achievements of Drake and Clive and Hastings because that would bring in Geography? Do we decline to teach the multiplication table because its "complete" understanding demands a knowledge of the Law of Relativity? Do we decline to venture on the Ten Commandments unless the pupil is taking the "subject" of ethics?

(3) Even if one's reading in economics is limited to the Sailor's Story, which these games help to illustrate, there is added a piece of explanation useful in the understanding of everyday events, and of help in answering questions which arise inevitably in subjects already taught in schools.

(4) There are certain governing principles in nearly all the sciences of which the public as a whole must have some notion, even if in an oversimplified form, in order to avoid public catastrophe. For the belief to be general that epidemics are caused by demons and that it is a waste to spend money on drains would have practical disadvantages. The public, which used to hold that belief, can be led to abandon it without acquiring a "complete" knowledge of medicine. Certain common economic notions, hardly less disastrous, can be shaken by a better understanding of certain processes, an understanding which need not involve "complete" economic knowledge.

(5) A specialist or expert in economics is often rendered powerless to help the public by reason of the ignorance of that public touching simple economic facts.

It is certainly curious that we should apply to economics, of all subjects, a principle of "know all or know nothing" which we do not dream of applying to any other subject whatsoever.

In our curriculum making we have been compelled to recognize the patent fact that in order to equip anyone for life in the modern world at all, to enable him to move about without danger, to understand in the least what is going on about him, to say nothing of giving him some educational foundation for his decisions as a voter and citizen, we must give him some

knowledge of very many different subjects. The object of this is not vocational, but social and cultural. It is not because we want to make of him an astronomer or a navigator that we teach him that the earth is round and rotates on its axis, but because he cannot understandingly take in, say, geography without that knowledge; and if he cannot take in geography he cannot take in history; and some history is perhaps indispensable to a sense of citizenship, of patriotism. And it is not because he is to be a gardener that we give him some knowledge of botany, or because he is to be a veterinarian that we give him some knowledge of zoology, but because those things help him to understand the nature of life, may be a useful approach to such things, even, as the understanding of sex. Nor is it because he is to be an engineer that we give him some notion of physics and mathematics. All these "smatterings" are given because the understanding of no one subject is possible without calling in some small measure upon a dozen others; and because without some elementary notion of these things, the facts of the world in which he lives would remain much more confused and confusing than they need be, more benumbing to the intelligence, more deadening to the desire even to understand.

But of nothing perhaps is this so much true as of the subjects dealt with in this book. And to that may be added a further consideration.

A word or two needs to be added to the above reply. Let us take the last point first.

There is one outstanding difference between the work of the physicist, the man dealing with inanimate matter, and the task of the worker in the social sciences. The physicist is usually now—though he was not always—left uninterruptedly at his task until he can produce his result and show it to the public. He goes, as it were, into the laboratory and comes out in a month, or a year, or ten years, with a discovery in medicine or wireless telegraphy or what you will. And because his result can thus be demonstrated the public accepts it and uses it. But in the case of the social sciences, especially in the case of economics, the public is itself the raw material with which the investigator or experimenter works, and the public feels, not without some reason, that it has something to say as to the way in which it shall be used for the purpose of the economist's experiments. The public has to pass upon the question as to whether the tariff shall be raised or lowered; whether this or that trade shall be allowed to die in the pursuit of newer methods; whether prices shall be lower or higher; what shall be done about the bank-rate; whether there shall be more or less money; restricted or expanded credit; whether taxation shall be direct or indirect. And because the public is, speaking broadly, possessed by certain dominant fallacies of the Mercantilist order, it has strong opinions which in practical policy it imposes again and again as against the specialist knowledge of the economist. Thus it happens that

while 99 per cent. of the trained economists are broadly Free Trade, 99 per cent. of the Governments of the world responsible for actual policy and dependent upon the general feeling of their publics are incurably and increasingly Protectionist in tendency. Where the trained economist would favor direct taxation, the layman favors indirect; where the economist distinguishes clearly between the individual and the general interest, the voter hopelessly confuses them.

In other words, the physicist can disregard the view, if any, which the public has with reference to the principles which guide him; the economist cannot. The economist can only carry out his work if the public take in some measure his view of the principles which he proposes to apply. To that extent, therefore, if the technical economist is to do his work, he must secure the acquiescence of the public in certain general principles. As things are, he cannot even explain in terms popularly understood what these principles are, still less get any comprehension of them.

Recent history is eloquent on the point. The thing which stood in the way of a much more rapid economic reconstruction in Europe after the war, particularly on the financial side, was not the fact of disagreement between the experts, any more than it is disagreement among the experts which prevents such desirable achievements as the settlement of the American debts problem; it was (and, in the case of the debts, is) due to the all-but universal belief that foreigners can pay in "money" without sending us

their goods. The statesmen who know better have been terrorized into silence by the passion with which that belief was, and is, held.

Professors Bass and Moulton in their book *America and the Balance Sheet of Europe*, writing at the time of the Reparation and Debts difficulty, asked:

"What hope is there for the world so long as the leading Premiers of Allied countries admit that Germany can pay only with goods which none of the Allied nations are willing to receive, give support to their Parliaments in framing tariff measures designed to prevent German exports, and at the same time insist that recalcitrant Germany must meet the reparation obligation to the last farthing and the last *sou*? What hope is there for the world so long as most of the leading students of international finance and economics, who recognize the fundamental illusion in reparations and Allied debts, will discuss the subject only in undertones and in inner offices? What hope is there for the world when its statesmen and financiers alike, while lacking the courage to tell the truth about reparations and inter-Allied debts, insist that nothing can be done as a practical matter, 'however desirable it might be from an economic point of view,' because the people will not be satisfied to give up the supposed advantages of reparations and debt payments? If ever there was a time for leadership in a campaign of enlightenment on the fundamentals of international economics, it is now. If ever there was a time when the truth is needed to set men free, it is now. If ever there was a time when evasion and concealment were political virtues, it is *not* now."[1]

[1] Incidentally, the Reparations confusion did not bear merely upon the settlement of Continental Europe. In the view of some of the astutest economists it contributed to a false direction of British financial policy at a very

The physical scientist was once faced by a similar difficulty; and like the present-day statesman was usually terrorized into silence. He was helpless until the public had abandoned certain theories. For long the public view was that authority, antiquity, not experiment and event, should be the test of truth; and they enforced their theory by tribal taboos, church inquisitions, racks, massacres. Not until they had revised that theory—and it was dominant for some thousands of years—could such science as was born be used.

A certain idea—that the way to test whether a big stone will fall to the ground quicker than a small one is to drop two stones and see, and *not* to be guided absolutely by what someone two thousand years ago said—once came into being. Was this very simple idea a "smattering"? Perhaps. Yet it is a smattering to which we owe civilization and the modern world.

For ages (to revert to an illustration already hinted at) men were mowed down in millions because pestilence was treated as due to angry gods or devils. But another idea, that of the transmission of disease by micro-organisms, gradually gained ground. General policy changed in consequence; spells and incantations were abandoned and the ordinary man thought of water, drains, sanitation, isolation, cleanliness, prophylaxis. Behind the change of policy was a quite definite change of public idea, and the first would have been impossible without the

crucial juncture: the too rapid deflation which worsened unnecessarily the state of unemployment

second. Was that bit of knowledge on the part of the ordinary man a "smattering"? Again, perhaps. But it helped to transform the world, to save hundreds of millions of lives.

One of the dangers to which the academic mind is particularly exposed, perhaps, is that of dropping into the habit of assuming that nothing which is simple and clear and easy can be true or useful. Wisdom, it is felt, can only come from much toil and learning. In one sense, doubtless, that is true. Yet ideas which have corrected disastrous errors, putting man on the right course, have often of themselves been simple ideas which could be explained in a few moments; smatterings, in the sense that Watt's understanding of the cause which made the lid of the kettle lift, Newton's falling apple, Galileo's swinging lamp, the stones falling from the leaning-tower, were "smatterings." They represented the grasping of a key idea which unlocked a universe.

Imagine a teacher having to deal with children drawn from a backward and ignorant and disease-ridden population, a population imbued with primitive ideas as to the causes of disease; convinced that epidemics were due to spells and sorcery and could be avoided by other spells and sorcery. A teacher so placed would certainly be extremely remiss in his duty if, merely because he had not studied the whole of medicine (which, of course, no one has), he failed to familiarize his pupils with truer notions of the nature of typhoid epidemics. With the help of a few diagrams he could at least make plain to his scholars the nature of the transmission of disease by micro-

organisms—the simple mechanism of that process. By so doing he might alter their whole conduct with reference to cleanliness, sanitation, and so the prevention of disastrous sickness; giving, indeed, not only a motive for better sanitary conduct, but making that conduct generally more intelligent, more scientific; developing the sense of causation, of orderliness in nature.

Is there some equivalent key principle of economics that we need to disentangle from the mass of economic learning, some major clarification which will, at least, sweep away the main confusions that have heretofore, on the part of the layman, stood in the way of clear thinking? Is it possible to isolate some central truth which might do for popular thinking about economics what the microbe explanation did for the popular thinking about disease?—a service which did not consist in an attempt to impart a technical knowledge of medicine, but in so sweeping away false theories that it became possible to read everyday facts aright.

I think there is, and the question of a "smattering" does not come into it here any more than it did into those older errors. For the old and new have this in common: very often the most disastrous of the mistakes are due, not to a lack of learning, but to a failure to see the self-evident, or what would be self-evident if fallacious theories did not stand in the way.

That central truth the previous chapter has discussed. The main object of these games has been to isolate it and to give as much understanding of the

processes of money and credit as is indispensable for the understanding of the processes of civilization, society. And for discussing those fundamentals with his pupils it is no more necessary for a teacher to be a technical economist than it is for him to be an astronomer to explain intelligibly the phenomena of sunrise and sunset.

All the economics a teacher need know in order to make fruitful use of this device is as much economics as is contained in the story about the Sailor. If you can see and can get the student to see why in principle this or that arrangement on the Island is sound; why the Island money would be good money if the enterprises worked and bad money if they did not; and get him to thinking about the reasons for the rules and the Island story generally, you have equipped him for thinking about the financial and economic conditions which will confront him in the society of which he is a part. It is quite immaterial whether he knows the date of the British Bank Act or whether there are six or seven kinds of money in circulation in the United States, just the proportion of securities to gold in the backing of Federal Reserve currency, and so forth. These things may be valuable and indispensable later. But the first thing to know is "how it works," the basic mechanism of it all, the first rudimentary principles which are common to money economy the world over. That, through these games, you can do. You will not have given him positive knowledge of actual conditions, but you will have made it much easier for him to acquire that knowledge; have given

him a strong defense against a type of error which, if it ever possesses him, will render him incapable of reasoning clearly about those conditions at all.

The object should be, not to give the student facts of which he is at present ignorant, but to induce him to think about the facts he knows already, certain basic operations, and the causal relationship between them. He may remain, in a sense, ignorant, but he will be aware of his ignorance and will be far better equipped to recognize folly when he encounters it, because he will have learned something of the process by which, in economics, the unknown can be tested by the known.

THE GAME IN SCHOOLS: A NON-CURRICULUM SUBJECT

THERE need be no question of this device crowding an already overcrowded curriculum. The best method of introducing this to a school is about as follows:

Introduce Game No. 1 merely as game, an entertainment, to half a dozen intelligent pupils. They will very soon infect half a school, who will readily play it outside of class hours.

This means that they will have read or listened to the story in order to learn and apply the rules. Having learned the story for the purposes of the rules, they will have learned some at least of the economics involved in the story quite apart from the game. All sorts of questions about the *game* will arise. Can a player do this or that under the rules? Would it have been fair for the Sailor to have

this or that power? All such questions involve sooner or later discussion of financial problems, methods, processes. It is a dull boy or girl indeed that does not become interested in those processes: they are part of the game that they are playing. On that interest can be built explanations and discussions of financial organization and wider social organization. Familiar with the mechanism of the game the pupils will follow explanations which would hopelessly confuse them but for the understanding which the game had furnished them.

Particularly fruitful are such questions as "Would it have made any difference whatsoever if the two blocks had not been gold? If not, why could not the sailor have carried through his enterprises without any gold at all? Why do *we* need gold?"

This writer knows by numberless cases that that question is for some reason a particularly absorbing one for youngsters. A certain proportion of children and adolescents seem to find a fascination in going over it and once started on that speculation they will very soon work out in their intellectual adventures the essence of the whole money problem.

A little friendly interest in the new entertainment and a few questions easily keep young minds buzzing. A German says he has learned how to make gold. One day it may be made cheaply. What would happen? And do they suppose the Sailor proved a curse or a blessing to the Island with his money? Has money been a curse or a blessing in history?

And from that point there would be no great difficulty in relating the game very definitely to the existing subjects of the curriculum—history, mathematics, geography, literature.

Take history. To interest a student in the story of money is to give him a new concern in, and a new approach to, the story of man's social development. For a young student to realize something of the process which lay behind the development of primitive barter to credit and modern banking corporations, passing by the Phœnicians, Carthage, the shortage of gold in Rome (which in the view of some explains Rome's fall)[2]; mediæval merchant princes; the Church and its attitude about usury; the Jews;

[2] Sir Archibald Alison, in his *History of Europe*, says: "The two greatest events which have occurred in the history of mankind have been directly brought about by a successive contraction and expansion of the circulating medium of society." These events were the fall of the Roman Empire, which, according to Sir Archibald, "was in reality brought about by a decline in the gold-and silver-mines of Spain and Greece," and the Renaissance, which he ascribes to the discovery of the mines of Mexico and Peru (quoted in *The Meaning of Money*, by Hartley Withers, p. 17).

"Debasements of the coinage, the demand for the retention of bimetallism, and the numerous paper-money agitations of history have all been vitally connected with the prevalent desire for more money, in the belief that more money means wealth. Without this popular confusion on the subject of money and wealth, paper-money and bimetallism would never have invaded the field of politics. While we might have had issues of paper-money as a means of war finance, such issues would probably have been promptly retired, and, similarly, we should doubtless have abolished bimetallism at an earlier date in the absence of any popular concern over the quantity of money. Under such circumstances, however, discussion of these subjects would have been primarily academic. Most text-writers have, in fact, virtually assumed by their method of treatment that these controversies were mainly academic affairs. They are analysed from the 'scientific' point of view and the workings of economic laws are satisfactorily disclosed, but the tremendous rôle that money has played in society is not usually revealed. Viewed from a broader outlook, the history of money becomes one of the most interesting and human phases of social and economic progress" (H. G. Moulton's *Principles of Banking*, p. xiv).

the lure of gold and its part in the discovery of America; the resultant wars; the growth of the Empire; the part played by Overseas investments therein; the coming of the railroad, the big steamship and the need for assembling capital in large masses would enable him to read history with an entirely new understanding.

Or the thing could be given a more sociological approach. "He must have been a pretty hefty monopolizer, that Sailor-Banker. He was not only the only Banker, which was bad enough; he was apparently the only engineer, the only manufacturer, the only shopkeeper as well. I expect the Islanders killed him in the end." What happens to educated people who go into primitive communities and do that sort of thing? What about Rajah Brooke? Were there other Rajah Brookes? And would the Islanders have taken to money readily? Did the Indians in America? Do Negroes in Africa now?

It is not possible for youngsters to become interested in the subject of money—and the present writer can testify that youngsters very quickly become interested in money—without acquiring a real interest in the main processes of history and social development as a whole.

Or to take geography. Had the author any real island in view, do you suppose? Tristan da Cunha? Perhaps. What about one of the big Pacific Islands? Pitcairn? Surely his people were very like the *Bounty* mutineers. Who were *they?* How did people get to those remote Islands? What civilized Island communities have disappeared? The pleasantest of

these Islands have never been industrially developed. Why? If the Sailor had found a pirate's hoard of doubloons, where was he likely to be?

And, of course, there are few ways more likely to enlist interest in geography than to make it a part of the story of the great discoverers and adventurers. In all the early part of that story the search for gold operated as one of the most powerful impelling motives.

Take mathematics. An infinity of mathematical problems related to these games will arise almost spontaneously, and by dealing with them, and at the same time clarifying certain illustrations of banking and credit, a multitude of resulting problems will call for mathematical solution. Indeed, experience seems to show that the Game is more readily related to mathematics than to any of the other regular curriculum subjects.

One final word as to the use of this device, consisting as it does of a Story as well as a Game. The wise teacher will make as much use of the Story as of the Games. Children will go on playing the first game, once they have learned it, without any prompting from the teacher. But whether the Game illustrates much, in the case of children, will depend a good deal upon the art with which the teacher uses the Story, combines Game and Story, and shows how the problems which arise upon the Island throw light upon the problems of the world in which the youngsters live.

One of the greatest difficulties in school-teaching, of course, is to bring home to the student that what

he is learning—his history and arithmetic and geography and other "subjects"— is all an explanation of the life of the world in which he lives and the life about him, and an instrument for helping him to solve his problems. "How will this knowledge help you to live well, to avoid mistakes, to get satisfaction out of life?" Such a question would certainly astonish most school students, and the nearest they could come to answering it would be that the knowlege would help them to pass their exams and so get into college and so into a profession. But that the knowledge is intended to help directly in the understanding of life, particularly in its social side, that it is mainly part of the science of society and so of the art of life, rarely occurs to the average student. So very many appear to picture exams, "the proof of knowledge," as the performance of intellectual antics arbitrarily ordained by the Olympians who rule in these things.

The reason is very often that the young mind is not brought to realize early in its development that there is such a thing as "society"— a precarious device without which comfort and freedom and security would be impossible; a thing created by men slowly and painfully, often working so badly; an experiment which keeps on giving quite unforeseen results; an enterprise that at so many points breaks down, revealing failures which, on pain of vast miseries, we must somehow prevent by greater wisdom.

Speaking broadly, most young students never feel this challenge to their intelligence and capacity

as soldiers in the great army of Man waging his never-ending war against Chaos, for liberation from the cruelty of wild nature and the tyranny of our own. They have as little consciousness of this drama, very often, as so many domesticated animals. An American teacher once put it strikingly: "So many of our students never discover society." He went on to explain that it simply never occurs to them that history is the story of the growth of human society, of Man's errors, triumphs, and failures; that physics is a study of the means by which he can use the best tools available; and sociology a study of the best means of organizing the army in its fight. That society has indeed a mechanism which must be understood if it is to work smoothly; that we know very little about it and must know more; that we are in some measure masters of that machine, though we are also in a sense its component parts, all these things, so moving and absorbing when they are discovered, education so rarely helps us to discover.

One of the reasons, surely, is that the drama is at once too vast and too complicated. The young student is too often dismayed and stupefied by the complication; stunned by the vastness. He should, if possible, be interested first in a simplified working model. If he can grasp that simpler and smaller mechanism, some of the fundamental laws that govern its movements, he may be led to tackle the bigger thing.

The Story of the Island and its experiments can, with a little ingenuity on the teacher's part, be made

to serve the purpose of such a smaller and simplified working model. All economic arrangements—especially those connected with credit—have a social side which is inseparable from the purely economic.

In a homely fashion the Story of the Island, its community and its problems, may be made a means of giving a hint of this thing Society, its mechanism, the conditions of man's co-operation. It can be made a thumb-nail sketch, the picture of a microcosm, small and simple, so that the less instructed mind can grasp its essential processes. It can be made to do for the understanding of certain social forces what—to repeat an illustration—the lifting of the kettle lid did for Watt in an understanding of physical forces, an understanding which enabled him to change a world.

A new instrument of education has been suggested here. That it must in certain circumstances, and for certain purposes, prove immeasurably more effective than the instruments at present used would seem, for the reasons which have been indicated, beyond question. Whether the present author has given to that instrument its best form is, of course, very questionable. That it can be improved and developed is certain. So to improve it should be the object of teachers, who may be led by the present suggestions to try this general method.

For reasons outlined in the first chapter, in order, that is, to present the device first on its entertainment side, I have of set purpose kept back much

material of educational and pedagogical purport. To present the thing first as a game is, in the view of many good judges, the best way of bringing home to the largest public its educational possibilities. But, whatever the fate of the game as entertainment, its more purely educational aspect will be dealt with in greater detail in a later publication. Meantime, and with that further publication in view, the present author would be most grateful for any accounts of the experience of those who have made trials of this method, and for any suggestions which teachers may have to make in connection therewith.

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